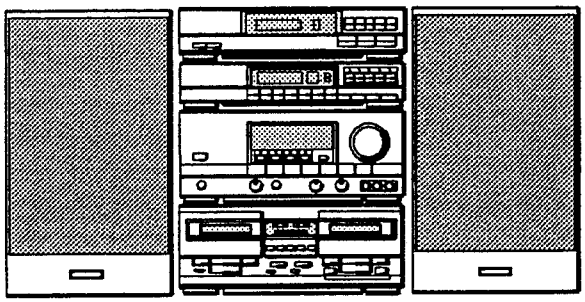
S/M Code No.90－030 DATE OF ISSUE 5/1990－I

# AIWA®

# CU-D91M

# SERVICE MANUAL



STEREO SYSTEM

• BASIC TAPE MECHANISM : TN－1800 • TYPE. E,K,Z

| CENTER UNIT | AMPLIFIER | CASSETTE DECK | TUNER | REMOTE CONTROLLER | SPEAKER | CD PLAYER (OPTIONAL) | TURNTABLE (OPTIONAL) |
|---|---|---|---|---|---|---|---|
| CU－D91M (E,Z type) | MX－D91M | FX－W919 | TX－D91 | RC－T91ML | SX－E91 | ※1 DX－D91<br>※2 DX－M90M | ※3 PX－E80 |
| CU－D91M (K type) | MX－D91M | FX－W91 | TX－D91 | RC－T91ML | SX－E91 | ※1 DX－D91<br>※2 DX－M90M | ※3 PX－E80 |

※1 As to the service information of DX－D91, see the individual service manual of DX－D91.

※2 As to the service information of DX－M90M, see the individual service manual of DX－M90M.

※3 As to the service information of PX－E80, see the individual service manual of PX－E80.

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# SPECIFICATIONS

**AMPLIFIER MX-D91M E, K, Z (with the graphic equalizer)**

**Power output** 100 W + 100 W (6 ohms, T.H.D. 10% RMS)
80 W + 80 W (6 ohms, T.H.D. 1% DIN)

**Input sensitivity (load impedance)**
PHONO, VIDEO 1/DAT, VIDEO 2, VIDEO 3 IN (AUDIO): 210 mV (47 kohms)

**Signal-to-noise ratio**
90 dB (CD/DAT DIRECT)

**Power requirements**
E, Z: 220 V AC, 50/60 Hz
K: 240 V AC, 50/60 Hz

**Power consumption**
380 W (System total 410 W)

**Dimensions** 360 (W) x 216 (H) x 324 (D) mm

**Weight** 8.5 kg

**CASSETTE DECK FX-W919/FX-W91**

**Track format** 4 tracks, 2 channels

**Frequency response**
Metal tape: 20 – 17,000 Hz (only for playback)
$CrO_2$ tape: 20 – 16,000 Hz
Normal tape: 20 – 15,000 Hz

**Signal-to-noise ratio**
70 dB (DOLBY NR C-ON, $CrO_2$ tape, peak level)

**Wow and flutter** 0.09% (WRMS)

**Tape speed** 4.8 cm/sec. (1-7/8 ips)
8.6 cm/sec. (high speed)

**Rewind time** 120 sec. (C-60)

**Fast forward time** 120 sec. (C-60)

**Recording system** AC bias

**Erase system** AC erase

**Motor** DC servomotor x 2

**Heads** Playback head x 1 (deck 1)
Record/playback/erase head x 1 (deck 2)

**Dimensions** 360 (W) x 138 (H) x 309 (D) mm

**Weight** 3.9 kg

**TUNER TX-D91YE, YK, YZ**

**<FM section>**

**Frequency range** 87.5 MHz to 108 MHz

**Usable sensitivity (IHF)**
1.6 µV (75 ohms) 15.2 dBf

**Alternate channel selectivity**
50 dB (±400 kHz)

**Signal-to-noise ratio**
70 dB (STEREO) 78 dB (MONO)

**Image response ratio**
45 dB

**Frequency response**
20 Hz to 15 kHz (+0.5 dB, –3 dB)

**Stereo separation** 40 dB at 1 kHz

**Antenna** 75 ohms (unbalanced)

**<MW section>**

**Frequency range** 522 kHz to 1,611 kHz

**Usable sensitivity** 300 µV/m

**Selectivity** 23 dB (9 kHz)

**Signal-to-noise ratio**
53 dB (100 dB input)

**Antenna** Loop antenna

**<LW section>**

**Frequency range** 144 kHz to 290 kHz

**Usable sensitivity** 1,000 µV/m

**Antenna** Loop antenna

**<Timer section and general>**

**Program timer** "Once" and/or "every"

**Sleep timer** Capable of setting in 10-minute decrements, 99 minutes maximum

**Dimensions** 360 (W) x 78 (H) x 308 (D) mm

**Weight** 2.3 kg

**SPEAKER SX-E91**

**Cabinet type** Bass reflex

**Speaker** 220 mm cone type woofer
60 mm cone type tweeter
30 mm ceramic type super tweeter

**Impedance** 6 ohms

**Output sound pressure level:**
89 dB/W/m

**Frequency response**
42 Hz to 20 kHz

**Dimensions** 260 (W) x 550 (H) x 230 (D) mm

**Weight** 7.0 kg

**COMMON SECTION**

**Power requirements**
E,Z: 220 V AC, 50/60 Hz
K: 240 V AC, 50/60 Hz

**Dimensions** 880 (W) x 550 (H) x 324 (D) mm (vertical placement)
1,240 (W) x 550 (H) x 324 (D) mm (horizontal placement)

**Weight** 28.7 kg

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- Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
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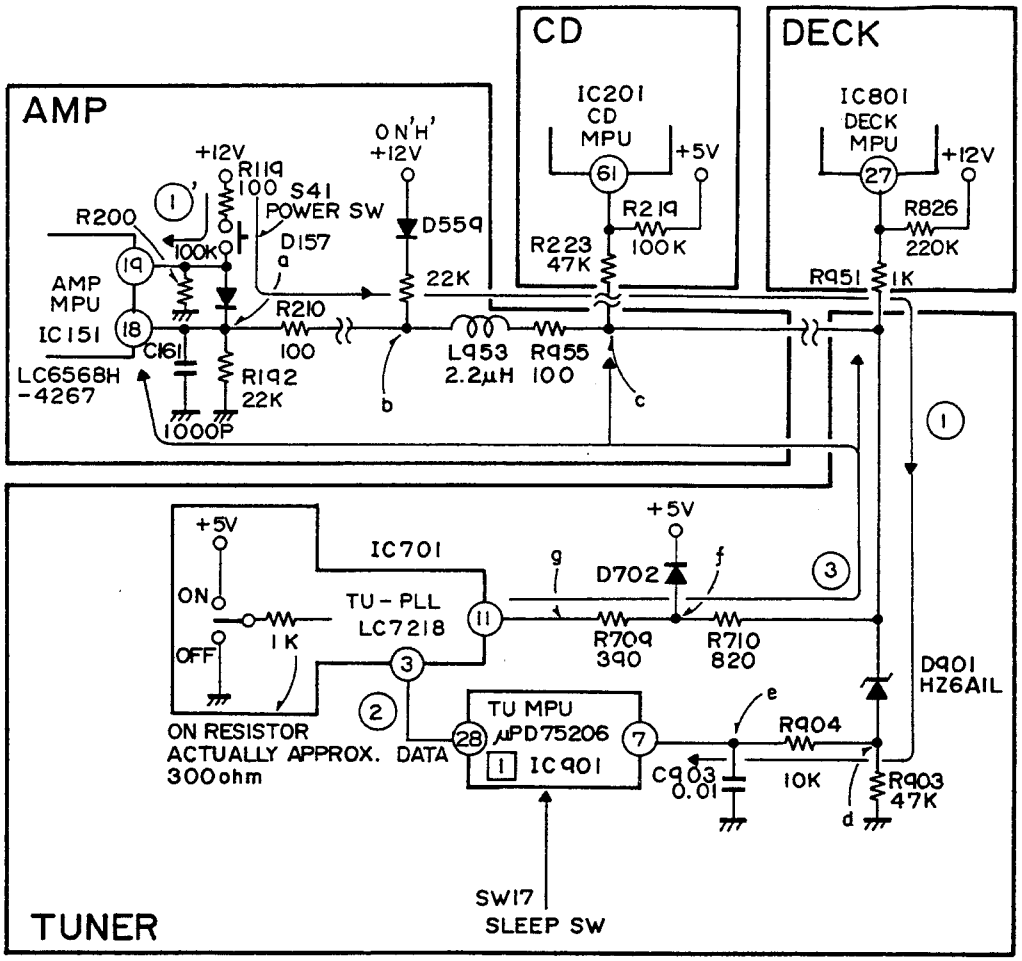
# POWER CONTROL




Voltages at each point when the power switch is held depressed (some values are different at the moment the switch is pressed)

| | | a | b | c | d | e | f | g |
|---|---|---|---|---|---|---|---|---|
| OK | When OFF to ON | 10.9 | 10.5 | 10.0 | 4.0 | 4.0 | 6.2 | 5.9 |
| | When ON to OFF | 10.7 | 10.0 | 9.4 | 3.0 | 3.0 | 3.5 | 2.0 |

CU-D91 SYSTEM

1. The power switch (S41) is on the amplifier. When this is pressed, the whole system turns on or off.
2. The tuner has a SLEEP switch (SW17). When this button is pressed during power off, the whole system turns on and the sleep timer operates.

Power control by the power switch (S41)

① The power switch (S41) is pressed (12V) and the microprocessor in the tuner is turned on (5V). (This also turns on the microprocessor (LC6568H-4267) in the amplifier).

② The microprocessor (μPD75206) in the tuner supplies the ON signal to LC7218.

③ LC7218 outputs "H" (5V) and holds the power control line at 5V, and the microprocessors of the system (amplifier, CD player and cassette deck) remain on.

Power control by the timer incorporated in the tuner

● The timer in the microprocessor of the tuner is activated.

② The microprocessor in the tuner supplies the ON signal to LC7218.

③ LC7218 outputs "H" (5V) via pin 11 and the microprocessors in the amplifier, CD player and cassette deck turn on.

Power turned on by the sleep button

● The sleep switch (SW17) is pressed during power off.

② The microprocessor in the tuner supplies the ON signal to LC7218.

③ LC7218 outputs "H" (5V) via pin 11 and the microprocessors in the amplifier, CD player and cassette deck turn on.

MODEL NO.

# MX – D91M

## ELECTRICAL MAIN PARTS LIST (MX – D91M)

| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| | | === IC === |
| | 87-001-443-010 | IC,ASP8801 |
| | 87-001-440-019 | IC,BA15218N |
| | 87-001-868-019 | IC,BU4015B |
| | 87-001-347-019 | IC,HD14051BP |
| | 87-001-350-019 | IC,HD14052BP |
| | 87-001-530-010 | IC,LA3607 |
| | 89-VP5-630-010 | IC,LC6568H-4267 |
| | 87-001-528-010 | IC,LC7522 |
| | 87-020-758-019 | IC,NJM2068SD |
| | 87-001-396-019 | IC,STK4182-2(E,K,Z) |
| | 87-001-946-010 | IC,STK4201-2(U) |
| | 87-001-902-019 | IC,STK4221-2(H) |
| | 87-020-943-019 | IC,TC9176P |
| | 87-001-869-010 | IC,XR1091 |
| | | === TRANSISTOR === |
| | 89-110-155-019 | TRANSISTOR,2SA1015GR |
| | 89-112-632-019 | TRANSISTOR,2SA1263N,OR(E,K,Z) |
| | 89-213-292-019 | TRANSISTOR,2SB1329Q |
| | 89-213-702-019 | TRANSISTOR,2SB1370E |
| | 89-309-456-019 | TRANSISTOR,2SC945LP |
| | 89-318-155-019 | TRANSISTOR,2SC1815GR |
| | 87-026-462-019 | TRANSISTOR,2SC1740S(SR) |
| | 89-406-555-019 | TRANSISTOR,2SD655E |
| | 87-026-500-019 | TRANSISTOR,2SD2144S,UV |
| | 87-026-219-019 | TRANSISTOR,DTA144ES |
| | 89-026-375-019 | TRANSISTOR,RN2202 |
| | 87-026-377-019 | TRANSISTOR,RN2204 |
| | | === DIODE === |
| | 82-596-799-019 | DIODE,1N4002 |
| | 87-001-559-019 | DIODE,1SS131 |
| | 87-020-465-019 | DIODE,1SS133 |
| | 87-001-820-010 | DIODE,GP15B(E,K,Z) |
| | 87-001-729-010 | DIODE,S5VB20 |
| | 87-027-346-019 | DIODE,ZENER HZ11A2L |
| | 87-027-680-019 | DIODE,ZENER HZ11C1L |
| | 87-027-661-019 | DIODE,ZENER HZ30-2L |
| | 87-027-393-019 | DIODE,ZENER HZ4C2(E,K,Z) |
| | 87-027-332-019 | DIODE,ZENER HZ6B1L |
| | 87-027-702-019 | DIODE,ZENER HZ6C2L |
| | 87-027-584-019 | DIODE,ZENER HZ9C1L |
| | | === MAIN CIRCUIT BOARD SECTION === |
| C500 | *87-018-134-019 | CAP,CERA-SOL 0.01 |
| C501 | *87-011-693-019 | CAP,ELECT 8200-63(H) |
| C501 | *87-010-755-019 | CAP,ELECT 8200-56(U) |
| C501 | *87-010-756-019 | CAP,ELECT 6800-50(E,K,Z) |
| C502 | *87-010-693-019 | CAP,ELECT 8200-63(H) |
| C502 | *87-010-755-019 | CAP,ELECT 8200-56(U) |
| C502 | *87-010-756-019 | CAP,ELECT 6800-50(E,K,Z) |
| C503 | *87-010-374-019 | CAP,ELECT 47-10 |
| C504 | *87-010-263-019 | CAP,ELECT 100-10 |
| C505 | *87-010-403-019 | CAP,ELECT 3.3-50 SME |
| C509 | *87-010-430-019 | CAP,ELECT 100-63(H,U) |
| C509 | *87-010-247-019 | CAP,ELECT 100-50(E,K,Z) |
| C510 | *87-010-374-019 | CAP,ELECT 47-10 |
| C511 | *87-010-248-019 | CAP,ELECT 220/10 |
| C521 | *87-010-384-019 | CAP,ELECT 100-25 SME |
| C522 | *87-010-384-019 | CAP,ELECT 100-25 SME |
| C523 | *87-010-385-019 | CAP,ELECT 220-25 |
| C531 | *87-010-384-019 | CAP,ELECT 100-25 SME |
| C551 | *87-010-390-019 | CAP,ELECT 3300-25 SME |
| C553 | *87-010-382-019 | CAP,ELECT 22-25 SME |
| C554 | *87-010-381-019 | CAP,ELECT 330-16 SME |
| C555 | *87-012-341-019 | CAP,ELECT 10-16 SXJ |
| C556 | *87-018-134-019 | CAP,CERA-SOL 0.01 |
| C557 | *87-010-374-019 | CAP,ELECT 47-10 |
| C558 | *87-010-263-019 | CAP,ELECT 100-10 |
| C601 | *87-018-115-019 | CAP,CERA-SOL 47P SL |
| C602 | *87-018-115-019 | CAP,CERA-SOL 47P SL |
| C603 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C604 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C605 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C606 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C607 | *87-010-374-019 | CAP,ELECT 47-10 |
| C647 | *87-018-125-019 | CAP,CERA-SOL 330P |
| C651 | *87-018-131-019 | CAP,CERA-SOL 1000P |
| C652 | *87-018-127-019 | CAP,CERA-SOL 470P |
| C653 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C654 | *87-010-546-019 | CAP,ELECT 0.33-50 SME |
| C755 | *87-018-103-019 | CAP,CERA-SOL 8.2P SL |
| C756 | *87-018-103-019 | CAP,CERA-SOL 8.2P SL |
| C757 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C758 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C807 | *87-010-421-019 | CAP,ELECT 4.7-50 5L |
| C808 | *87-010-421-019 | CAP,ELECT 4.7-50 5L |
| C809 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C810 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C815 | *87-010-405-019 | CAP,ELECT 10-50 SME |
| C816 | *87-010-405-019 | CAP,ELECT 10-50 SME |
| C819 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C820 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C821 | *87-010-401-019 | CAP,ELECT 1-50 SME |
| C822 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C823 | *87-010-401-019 | CAP,ELECT 1-50 SME |
| C825 | *87-010-236-019 | CAP,ELECT 1000-10 |
| C826 | *87-010-236-019 | CAP,ELECT 1000-10 |
| C827 | *87-018-131-019 | CAP,CERA-SOL 1000P |
| C828 | *87-018-131-019 | CAP,CERA-SOL 1000P |
| C829 | *87-010-381-019 | CAP,ELECT 330-16 SME |
| C851 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C852 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C853 | *87-018-124-019 | CAP,CERA-SOL 270P |
| C854 | *87-018-124-019 | CAP,CERA-SOL 270P |
| C855 | *87-010-382-019 | CAP,ELECT 22-25 SME |
| C856 | *87-010-382-019 | CAP,ELECT 22-25 SME |
| C857 | *87-018-140-019 | CAP,CERA-SOL 2.2P CH |
| C858 | *87-018-140-019 | CAP,CERA-SOL 2.2P CH |
| C859 | *87-010-260-019 | CAP,ELECT 47-25 SME |
| C860 | *87-010-260-019 | CAP,ELECT 47-25 SME |
| C861 | *87-010-544-019 | CAP,ELECT 0.1-50 |
| C862 | *87-010-544-019 | CAP,ELECT 0.1-50 |
| C863 | *87-010-544-019 | CAP,ELECT 0.1-50 |
| C864 | *87-010-544-019 | CAP,ELECT 0.1-50 |
| C865 | *87-010-430-019 | CAP,ELECT 100-63(H,U) |
| C865 | *87-010-247-019 | CAP,ELECT 100-50 SME(E,K,Z) |
| C867 | *87-018-123-019 | CAP,CERA-SOL 220P |
| C868 | *87-018-123-019 | CAP,CERA-SOL 220P |
| C901 | *87-010-221-019 | CAP,ELECT 470-10 |
| C902 | *87-010-221-019 | CAP,ELECT 470-10 |
| C903 | *87-010-221-019 | CAP,ELECT 470-10 |
| C904 | *87-010-236-019 | CAP,ELECT 1000-10 |
| C919 | *87-010-263-019 | CAP,ELECT 100-10 |
| C951 | *87-018-131-019 | CAP,CERA-SOL 1000P |
| C952 | *87-018-209-019 | CAP,CERA-SOL 0.1 |
| C953 | *87-010-804-019 | CAP,CERA-SOL 0.01(Z) |



| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| C954 | *87-010-804-019 | CAP,CERA-SOL 0.01(Z) |
| ⚠FR501 | 87-029-096-010 | RESISTOR,FUSE 100 1/2W(H) |
| ⚠FR501 | 87-029-065-010 | RESISTOR,FUSE 68 1/2W(U) |
| ⚠FR501 | 87-029-030-019 | RESISTOR,FUSE 82 1/4W(E,K,Z) |
| ⚠FR551 | 87-029-124-019 | RESISTOR,FUSE 2.2 1/4W(U) |
| J951 | 87-009-204-019 | JACK,6.3 YKB21-5012(MIC) |
| J952 | 81-669-655-019 | JACK,6.3 W/S AU(PHONES) |
| J953-1 | *89-VP5-639-010 | JACK,PIN 6P AV(VIDEO-1 IN) |
| J953-2 | +++ | JACK,PIN 6P AV(VIDEO-1 OUT) |
| J953-3 | +++ | JACK,PIN 6P AV(VIDEO-2 IN) |
| J953-4 | +++ | JACK,PIN 6P AV(MONITOR OUT) |
| J953-5 | +++ | JACK,PIN 6P AV(VIDEO-1/DAT-L) |
| J953-6 | +++ | JACK,PIN 6P AV(VIDEO-1/DAT-R) |
| J954-1 | *89-VP5-638-010 | JACK,PIN 6P EARTH(PHONO-L) |
| J954-2 | +++ | JACK,PIN 6P EARTH(PHONO-R) |
| J954-3 | +++ | JACK,PIN 6P EARTH(VIDEO-1/DAT-L) |
| J954-4 | +++ | JACK,PIN 6P EARTH(VIDEO-1/DAT-R) |
| J954-5 | +++ | JACK,PIN 6P EARTH(VIDEO-2-L) |
| J954-6 | +++ | JACK,PIN 6P EARTH(VIDEO-2-R) |
| J955 | *87-009-065-019 | CONNECTOR,15P FG(1.TUNER) |
| J956 | *87-009-063-019 | CONNECTOR,11P FG(2.CD) |
| J957 | *87-049-851-019 | JACK,PIN 2P(SURROUND SPEAKER) |
| J958 | *87-033-197-019 | TERMINAL,SP-4P 2(SPEAKERS) |
| L951 | *87-003-366-019 | COIL,1UH |
| L952 | *87-005-366-019 | COIL,1UH |
| L953 | *87-003-098-019 | COIL,2.2UH |
| R525 | *87-022-050-019 | RES,M/F 1W-0.22J |
| R526 | *87-022-050-019 | RES,M/F 1W-0.22J |
| R529 | *87-022-050-019 | RES,M/F 1W-0.22J |
| R530 | *87-022-050-019 | RES,M/F 1W-0.22J |
| RY551 | 87-045-285-010 | RELAY,VB12MB |
| RY951 | 87-045-307-010 | RELAY,LZ-12WM-K |
| | | === FRONT CIRCUIT BOARD SECTION === |
| C101 | *87-010-405-019 | CAP,ELECT 10-50 SME |
| C102 | *87-010-405-019 | CAP,ELECT 10-50 SME |
| C151 | *87-010-405-019 | CAP,ELECT 10-50 SME |
| C152 | *87-018-134-019 | CAP,CERA-SOL 0.01 |
| C153 | *87-010-807-019 | CAP,ELECT 330-6.3 |
| C154 | *87-010-421-019 | CAP,ELECT 4.7-50 5L |
| C156 | *87-010-405-019 | CAP,ELECT 10-50 SME |
| C157 | *87-010-234-019 | CAP,ELECT 47-16 5L |
| C158 | *87-018-127-019 | CAP,CERA-SOL 470P |
| C159 | *87-018-209-019 | CAP,CERA-SOL 0.1 |
| C160 | *87-018-209-019 | CAP,CERA-SOL 0.1 |
| C161 | *87-018-134-019 | CAP,CERA-SOL 0.01 |
| C162 | *87-018-131-019 | CAP,CERA-SOL 1000P |
| C201 | *87-018-131-019 | CAP,CERA-SOL 1000P |
| C202 | *87-018-131-019 | CAP,CERA-SOL 1000P |
| C251 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C252 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C253 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C254 | *87-010-234-019 | CAP,ELECT 47-16 5L |
| C255 | *87-018-134-019 | CAP,CERA-SOL 0.01 |
| C256 | *87-018-195-019 | CAP,CERA-SOL 1200P |
| C257 | *87-010-401-019 | CAP,ELECT 1-50 SME |
| C259 | *87-018-209-019 | CAP,CERA-SOL 0.1 |
| C261 | *87-018-121-019 | CAP,CERA-SOL 150P |
| C262 | *87-018-121-019 | CAP,CERA-SOL 150P |
| C301 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C302 | *87-010-404-019 | CAP,ELECT 4.7-50 SME |
| C303 | *87-018-127-019 | CAP,CERA-SOL 470P |
| C304 | *87-018-127-019 | CAP,CERA-SOL 470P |
| C307 | *87-010-417-019 | CAP,ELECT 2.2-35 5L |
| C308 | *87-010-402-019 | CAP,ELECT 2.2-50 SME |
| C311 | *87-010-071-019 | CAP,ELECT 1-50 5L |
| C312 | *87-010-401-019 | CAP,ELECT 1-50 SME |
| C315 | *87-010-068-019 | CAP,ELECT 0.22-50 5L |
| C316 | *87-010-545-019 | CAP,ELECT 0.22-50 SME |
| C317 | *87-018-201-019 | CAP,CERA-SOL 5600P |
| C318 | *87-018-201-019 | CAP,CERA-SOL 5600P |
| C321 | *87-018-132-019 | CAP,CERA-SOL 2200P |
| C322 | *87-018-132-019 | CAP,CERA-SOL 2200P |
| C325 | *87-018-129-019 | CAP,CERA-SOL 680P |
| C326 | *87-018-129-019 | CAP,CERA-SOL 680P |
| C329 | *87-018-125-019 | CAP,CERA-SOL 330P |
| C330 | *87-018-125-019 | CAP,CERA-SOL 330P |
| C331 | *87-018-133-019 | CAP,CERA-SOL 4700P |
| C332 | *87-018-133-019 | CAP,CERA-SOL 4700P |
| C333 | *87-010-075-019 | CAP,ELECT 10-16 5L |
| C334 | *87-010-248-019 | CAP,ELECT 220-10 SME |
| C335 | *87-018-134-019 | CAP,CERA-SOL 0.01 |
| C338 | *87-010-405-019 | CAP,ELECT 10-50 |
| C401 | *87-010-401-019 | CAP,ELECT 1-50 SME |
| C402 | *87-010-401-019 | CAP,ELECT 1-50 SME |
| C403 | *87-010-401-019 | CAP,ELECT 1-50 SME |
| C404 | *87-010-401-019 | CAP,ELECT 1-50 SME |
| C405 | *87-018-130-019 | CAP,CERA-SOL 820P |
| C406 | *87-018-130-019 | CAP,CERA-SOL 820P |
| C411 | *87-018-123-019 | CAP,CERA-SOL 220P |
| C412 | *87-018-123-019 | CAP,CERA-SOL 220P |
| C415 | *87-010-545-019 | CAP,ELECT 0.22-50 SME |
| C416 | *87-010-545-019 | CAP,ELECT 0.22-50 SME |
| C417 | *87-010-401-019 | CAP,ELECT 1-50 SME |
| C418 | *87-010-401-019 | CAP,ELECT 1-50 SME |
| C419 | *87-018-109-019 | CAP,CERA-SOL 22P |
| C420 | *87-018-109-019 | CAP,CERA-SOL 22P |
| C421 | *87-010-071-019 | CAP,ELECT 1-50 5L |
| C422 | *87-010-401-019 | CAP,ELECT 1-50 SME |
| C423 | *87-018-134-019 | CAP,CERA-SOL 0.01 |
| C424 | *87-018-134-019 | CAP,CERA-SOL 0.01 |
| C425 | *87-010-421-019 | CAP,ELECT 4.7-50 5L |
| C426 | *87-010-421-019 | CAP,ELECT 4.7-50 5L |
| C433 | *87-010-071-019 | CAP,ELECT 1-50 5L |
| C434 | *87-010-071-019 | CAP,ELECT 1-50 5L |
| C435 | *87-010-071-019 | CAP,ELECT 1-50 5L |
| C436 | *87-010-401-019 | CAP,ELECT 1-50 SME |
| C441 | *87-010-234-019 | CAP,ELECT 47-16 5L |
| C444 | *87-010-263-019 | CAP,ELECT 100-10 |
| C457 | *87-010-401-019 | CAP,ELECT 1-50 SME |
| CF151 | *87-030-167-019 | VIB,CER CST4.0MHZ |
| FL101 | 89-VP5-625-010 | FL,9BT66GK(AMP) |
| FL102 | 89-VP5-626-010 | FL,BG-762GK(GEQ) |
| J201-1 | *89-VP5-637-010 | JACK,PIN 3P AU(VIDEO-3 L) |
| J201-2 | +++ | JACK,PIN 3P AU(VIDEO-3 R) |
| J201-3 | +++ | JACK,PIN 3P AU(VIDEO-3 V) |
| L151 | *87-005-372-019 | COIL,S 1MMH |
| LED1 | 87-001-123-019 | LED,SLZ-981C-02(1/HEAVY) |
| LED2 | 87-001-123-019 | LED,SLZ-981C-02(2/SOFT) |
| LED3 | 87-001-123-019 | LED,SLZ-981C-02(3/VOCAL) |
| LED4 | 87-001-123-019 | LED,SLZ-981C-02(4/HS) |
| LED5 | 87-001-123-019 | LED,SLZ-981C-02(5/CLEAR) |
| LED6 | 87-001-123-019 | LED,SLZ-981C-02(MANUAL) |
| LED7 | 87-001-123-019 | LED,SLZ-981C-02(PROGRAM) |
| LED8 | 87-001-123-019 | LED,SLZ-981C-02(CD/DAT DIRECT) |
| LED9 | 87-001-123-019 | LED,SLZ-981C-02(SURROUND) |
| LED10 | 87-001-123-019 | LED,SLZ-981C-02(BBE) |
| LED11 | 87-001-123-019 | LED,SLZ-981C-02(DIRECT REC.) |

| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| RE101 | *89-VP5-634-019 | ENCODER,DIA16(VOLUME UP/DOWN) |
| S1 | 87-036-142-019 | TACT SW(1) |
| S2 | 87-036-142-019 | TACT SW(2) |
| S3 | 87-036-142-019 | TACT SW(3) |
| S4 | 87-036-142-019 | TACT SW(4) |
| S5 | 87-036-142-019 | TACT SW(5) |
| S6 | 87-036-142-019 | TACT SW(HEAVY) |
| S7 | 87-036-142-019 | TACT SW(SOFT) |
| S8 | 87-036-142-019 | TACT SW(VOCAL) |
| S9 | 87-036-142-019 | TACT SW(HS) |
| S10 | 87-036-142-019 | TACT SW(CLEAR) |
| S11 | 87-036-142-019 | TACT SW(60HZ△) |
| S12 | 87-036-142-019 | TACT SW(150HZ△) |
| S13 | 87-036-142-019 | TACT SW(350HZ△) |
| S14 | 87-036-142-019 | TACT SW(1KHZ△) |
| S15 | 87-036-142-019 | TACT SW(2.5KHZ△) |
| S16 | 87-036-142-019 | TACT SW(6KHZ△) |
| S17 | 87-036-142-019 | TACT SW(15KHZ△) |
| S18 | 87-036-142-019 | TACT SW(60HZ▽) |
| S19 | 87-036-142-019 | TACT SW(150HZ▽) |
| S20 | 87-036-142-019 | TACT SW(350HZ▽) |
| S21 | 87-036-142-019 | TACT SW(1KHZ▽) |
| S22 | 87-036-142-019 | TACT SW(2.5KHZ▽) |
| S23 | 87-036-142-019 | TACT SW(6KHZ▽) |
| S24 | 87-036-142-019 | TACT SW(15KHZ▽) |
| S25 | 87-036-142-019 | TACT SW(GEQ ON/OFF) |
| S26 | 87-036-142-019 | TACT SW(DISPLAY) |
| S27 | 87-036-142-019 | TACT SW(CALIBRATION) |
| S28 | 87-036-142-019 | TACT SW(MEMORY) |
| S29 | 87-036-142-019 | TACT SW(TAPE) |
| S30 | 87-036-142-019 | TACT SW(TUNER) |
| S31 | 87-036-142-019 | TACT SW(PHONO) |
| S32 | 87-036-142-019 | TACT SW(CD) |
| S33 | 87-036-142-019 | TACT SW(VIDEO-1/DAT) |
| S34 | 87-036-142-019 | TACT SW(VIDEO-2) |
| S35 | 87-036-142-019 | TACT SW(VIDEO-3) |
| S36 | 87-036-142-019 | TACT SW(CD/DAT DIRECT) |
| S37 | 87-036-142-019 | TACT SW(SURROUND) |
| S38 | 87-036-142-019 | TACT SW(BBE) |
| S39 | 87-036-142-019 | TACT SW(DIRECT REC.) |
| S40 | 87-036-142-019 | TACT SW(MUTING WAKE UP) |
| S41 | 87-036-142-019 | TACT SW(POWER,STANDBY/ON) |
| SFR401 | *87-021-745-019 | SFR 47K |
| SFR402 | *87-021-745-019 | SFR 47K |
| VR201 | 89-VP5-635-019 | VOLUME 10KA(MIC MIXING) |
| VR202 | 89-VP5-636-019 | VOLUME 500KA(DSL) |
| VR401 | 81-689-623-019 | VOLUME 50KB(BBE) |

=== POWER-1 CIRCUIT BOARD SECTION ===

| | | |
|---|---|---|
| ⚠ | 87-033-213-019 | FUSE CLAMP |
| ⚠F2 | 87-035-139-019 | FUSE,T2.5A(H,E,K,Z) |
| ⚠F2 | 87-035-404-019 | FUSE,3A(U) |
| ⚠R1 | *87-022-184-019 | RES,M/F 0.33-1W |
| ⚠R2 | *87-022-184-019 | RES,M/F 0.33-1W |

=== POWER-2 CIRCUIT BOARD SECTION(U,E,K,Z) ===

| | | |
|---|---|---|
| ⚠ | 87-033-213-019 | FUSE CLAMP |
| ⚠F1 | 87-035-407-019 | FUSE,6A 125V(U) |
| ⚠F1 | 87-035-139-019 | FUSE,T2.5A(E,K,Z) |

=== POWER-3 CIRCUIT BOARD SECTION(H) ===

| | | |
|---|---|---|
| ⚠ | 87-033-213-019 | FUSE CLAMP |
| ⚠F3 | 87-035-191-019 | FUSE,T3.15A |
| ⚠F4 | 87-035-191-019 | FUSE,T3.15A |

| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|

=== POWER-4 CIRCUIT BOARD SECTION(H) ===

| | | |
|---|---|---|
| ⚠S101 | 87-036-173-019 | SLIDE SW(VOLTAGE SELECTOR) |

=== TR CIRCUIT BOARD SECTION ===

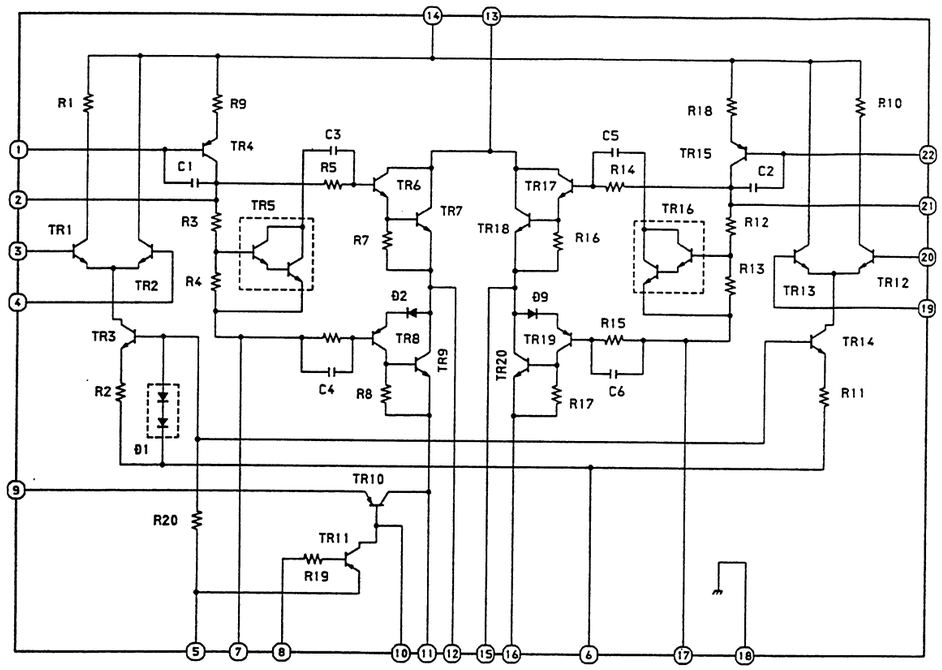
=== MISCELLANEOUS ===

| | | |
|---|---|---|
| ⚠ | *82-187-797-019 | AC CORD E (H,E,Z) |
| ⚠ | *87-034-589-019 | AC CORD U (U) |
| ⚠ | *82-187-796-019 | AC CORD BS (K) |
| ⚠ | *87-085-185-019 | AC CORD BUSHING E (H,E,K,Z) |
| ⚠ | *87-085-189-010 | AC CORD BUSHING U (U) |
| ⚠PT1 | 89-VP5-606-019 | POWER TRANSFORMER H (H) |
| ⚠PT1 | 89-VP5-607-019 | POWER TRANSFORMER UC (U) |
| ⚠PT1 | 89-VP5-608-019 | POWER TRANSFORMER EZ (E,Z) |
| ⚠PT1 | 89-VP5-609-019 | POWER TRANSFORMER KG (K) |

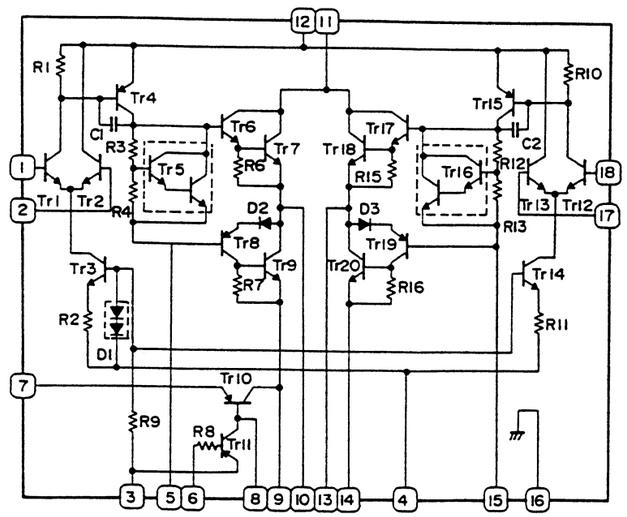


# IC BLOCK DIAGRAM – 1 (MX – D91M)

## IC,STK4201 II,STK4221 II




## IC,STK4182 II



# IC DESCRIPTION (MX－D91M)

## IC,LC6568H－4267

| Pin No. | Pin Name | I/O | Description | ACTIVE |
|---|---|---|---|---|
| 1～9 | a～i | O | Segments outputs to light the FL (fluorescent) display. | H |
| 10～13 | KEY－0～3 | I | Key inputs. | H |
| 14 | I－REC | I | Remote control signal input. | H |
| 15 | I－RE・A | I | Volume control data input. | L |
| 16 | I－RE・B | I | Volume control data input. | L |
| 17 | KEY－4 | I | Key input. | H |
| 18 | I－POWER | I | "H" when the power is turned on. The input functions are as shown in the table on the right. Note : The last function is restored by the remote control input. | H |
| 19 | KEY－POWER | I | | H |
| 20 | O－$\overline{\text{POWER}}$ | O | "L" output when the power is turned on. | L |
| 21 | I/O－$\overline{\text{SERIAL}}$ | I/O | Control I/O serial (8-bit) terminal with the deck, tuner and CD player.<br>1. Auto Function (The function is set to CD or TAPE when the CD player or deck starts to play.)<br>2. Easy Operation<br>・CD SYNCHRO REC<br>・Changes the function to CD and holds it.<br>・Sets the system to the DIRECT REC mode during HIGH SPEED CD REC.<br>・Starts the deck or CD player when the TAPE or CD function key is turned on. | L |
| 22 | O－$\overline{\text{BBE}}$ | O | BBE LED lighting and BBE ON/OFF signal switching output. | L |
| 23 | O－$\overline{\text{SURROUND}}$ | O | SURROUND LED lighting, SURROUND ON/OFF signal switching and SURROUND speaker ON/OFF control output. | L |
| 24 | O－$\overline{\text{EQ REC}}$ | O | DIRECT REC LED lighting and REC OUT signal switching output. | L |
| 25 | O－DATA | O | Outputs a signal to switch the graphic equalizer, electronic volume, input attenuator, function and direct mode. | H |
| 26 | O－CLK | O | Outputs a signal to switch the graphic equalizer, electronic volume, input attenuator, function and direct mode. | H |
| 27 | O－INPUT | O | Output to control shift register BU4015. (when switching the input attenuator, function and direct mode) | H |
| 28 | O－GEQ | O | Output to control the graphic equalizer. | H |
| 29 | O－EVR | O | Electronic volume control STB terminal. | H |
| 30 | TEST | I | Connected to test terminal Vss. | － |
| 31 | VSS | － | Connected to ground. | － |
| 32 | OSC－1 | － | Clock oscillation pins. | － |
| 33 | OSC－2 | | | |
| 34 | RESET | I | "L" input resets the IC. | － |
| 35 | HOLD | I | "H" input holds the microprocessor, stops oscillations and sets the system to the backup mode. (Goes "L" when the protection circuit operates) | H |
| 36 | O－VIDEO 2 | O | Video signal switching outputs. | H |
| 37 | O－VIDEO 3 | O | | |
| 38 | I－COMP | I | Spectrum analyzer lighting level input. | H |

| | VR UP | VR DOWN | Not accepted |
|---|---|---|---|
| ⑮ | ↑ | ↓ | — |
| ⑯ | L | L | H |

| | LAST FUNCTION | TUNER FUNCTION |
|---|---|---|
| ⑱ | H | H |
| ⑲ | H | L |

| | VIDEO 1 | VIDEO 2 | VIDEO 3 |
|---|---|---|---|
| ㊱ | L | H | L |
| ㊲ | L | L | H |



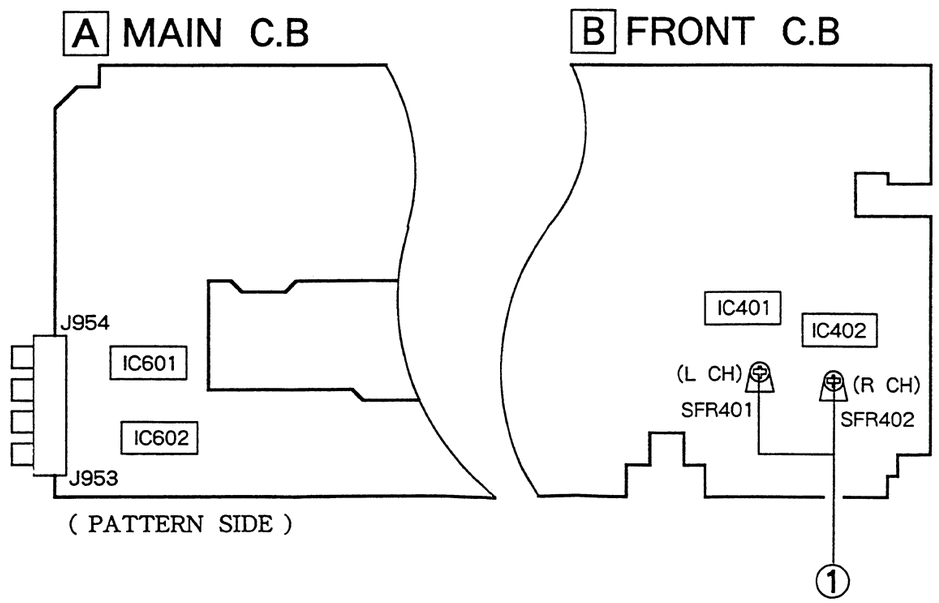
| Pin No. | Pin Name | I/O | Description | ACTIVE |
|---|---|---|---|---|
| 39 | O－COMP A | O | Spectrum analyzer BPF control output. | H |
| 40 | O－COMP B | O | Spectrum analyzer BPF control output. | H |
| 41 | O－COMP C | O | Spectrum analyzer BPF control output. | H |
| 42 | O－LED | O | Dynamic lighting LED output. | H |
| 43～50 | $\overline{\text{1G}}$～$\overline{\text{8G}}$ | O | Grid and key matrix outputs to light the FL display. | L |
| 51 | －Vp | － | Connected to -31V. | － |
| 52 | $\overline{\text{9G}}$ | O | Grid and key matrix output to light the FL display. | L |
| 53～63 | j～t | O | Segment outputs to light the FL display. | H |
| 64 | VDD | － | Positive ⊕ power terminal. | － |

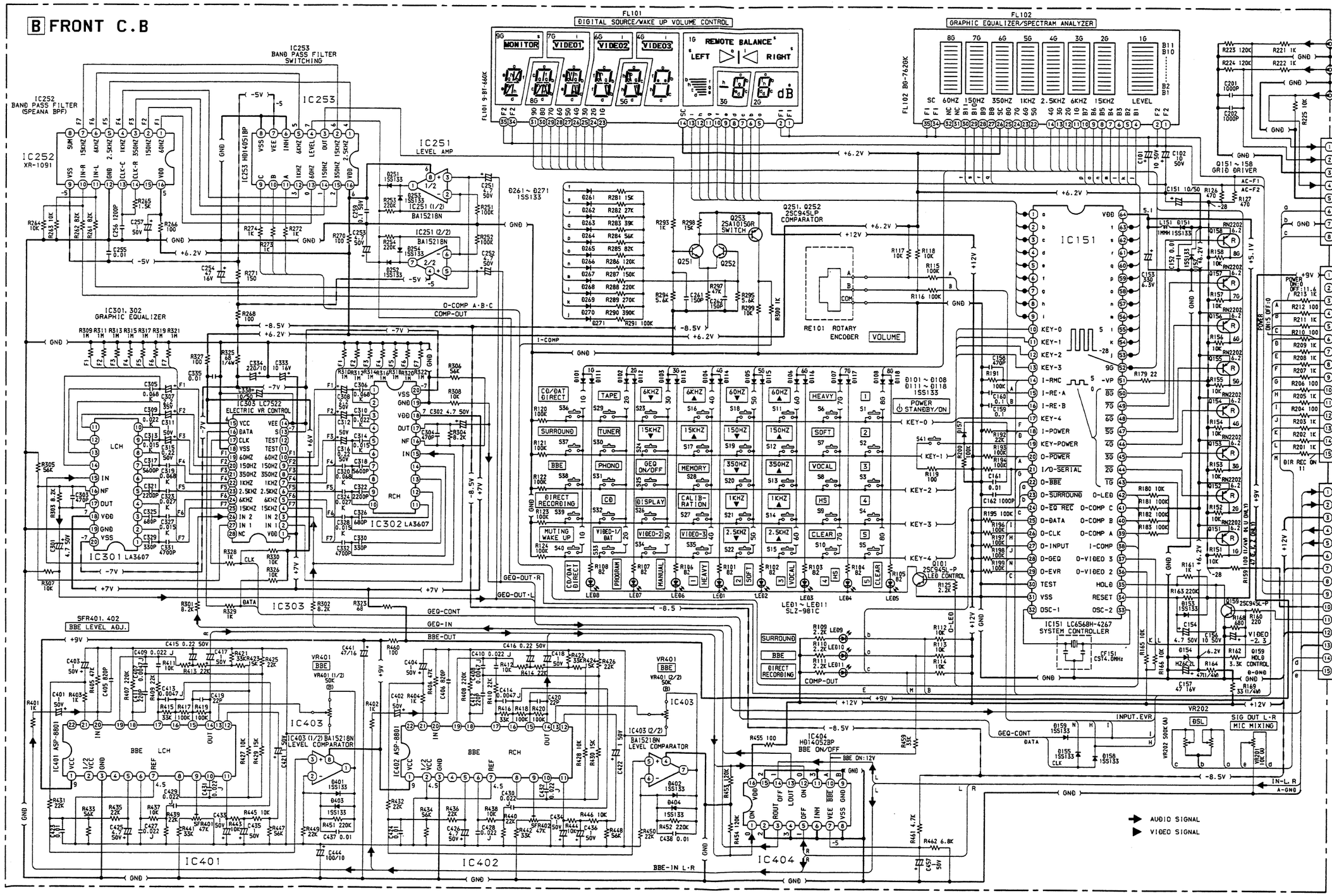
# ADJUSTMENT (MX－D91M)

1. BBE Level Adjustment.

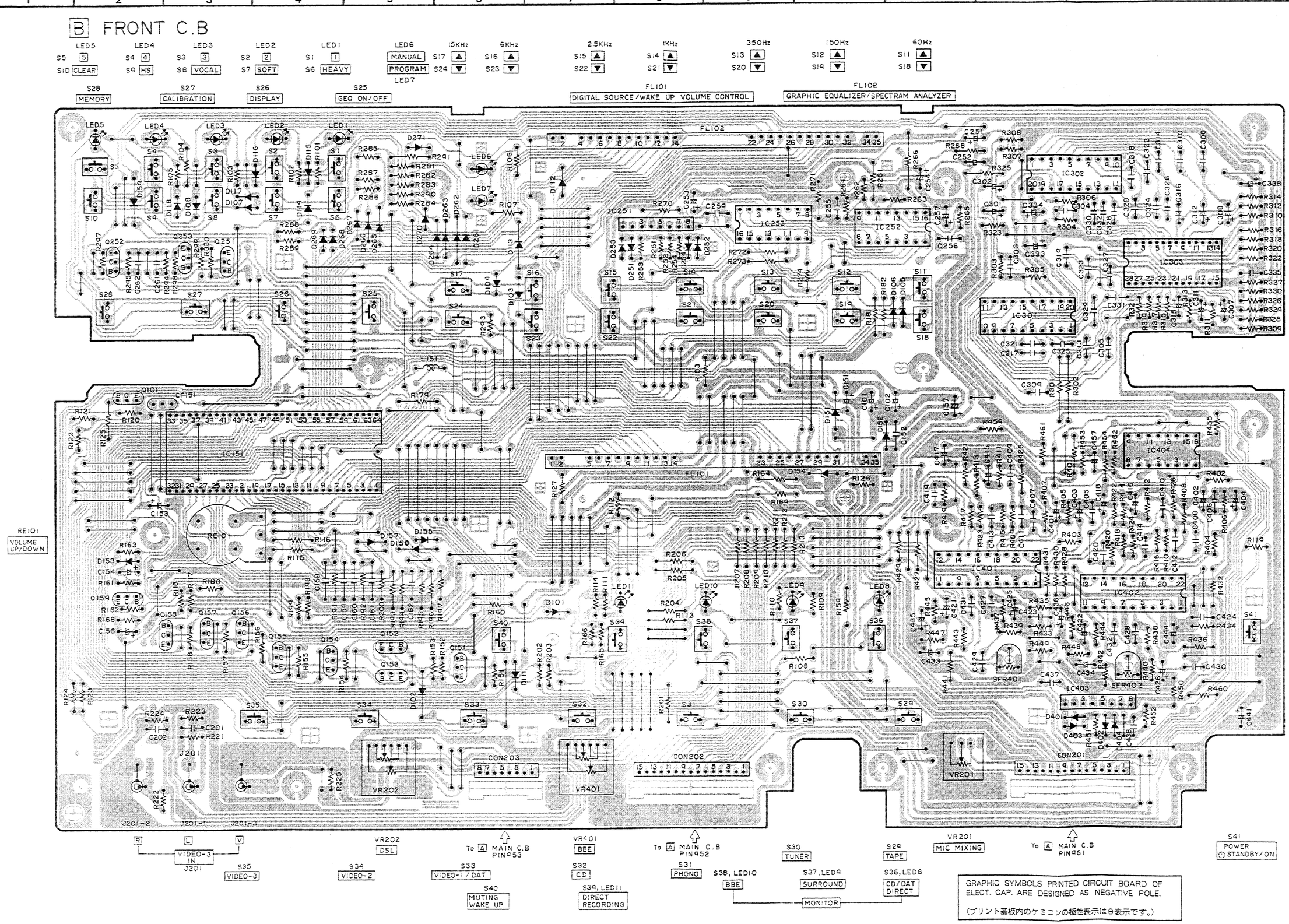
Settings :
- Test point : VIDEO-1 / DAT REC OUT (J953)
- Input terminal : VIDEO-1 / DAT IN (J954)
- Input signal : 0dBm (0.775V), 1kHz/5kHz
- BBE switch : ON
- BBE volume : MIN
- Ajustment locations : SFR401 (Lch)
  SFR402 (Rch)

Method : Set the BBE volume to minimum and adjust so that the output difference between the 1kHz and 5kHz signals is 0±0.5dBm.

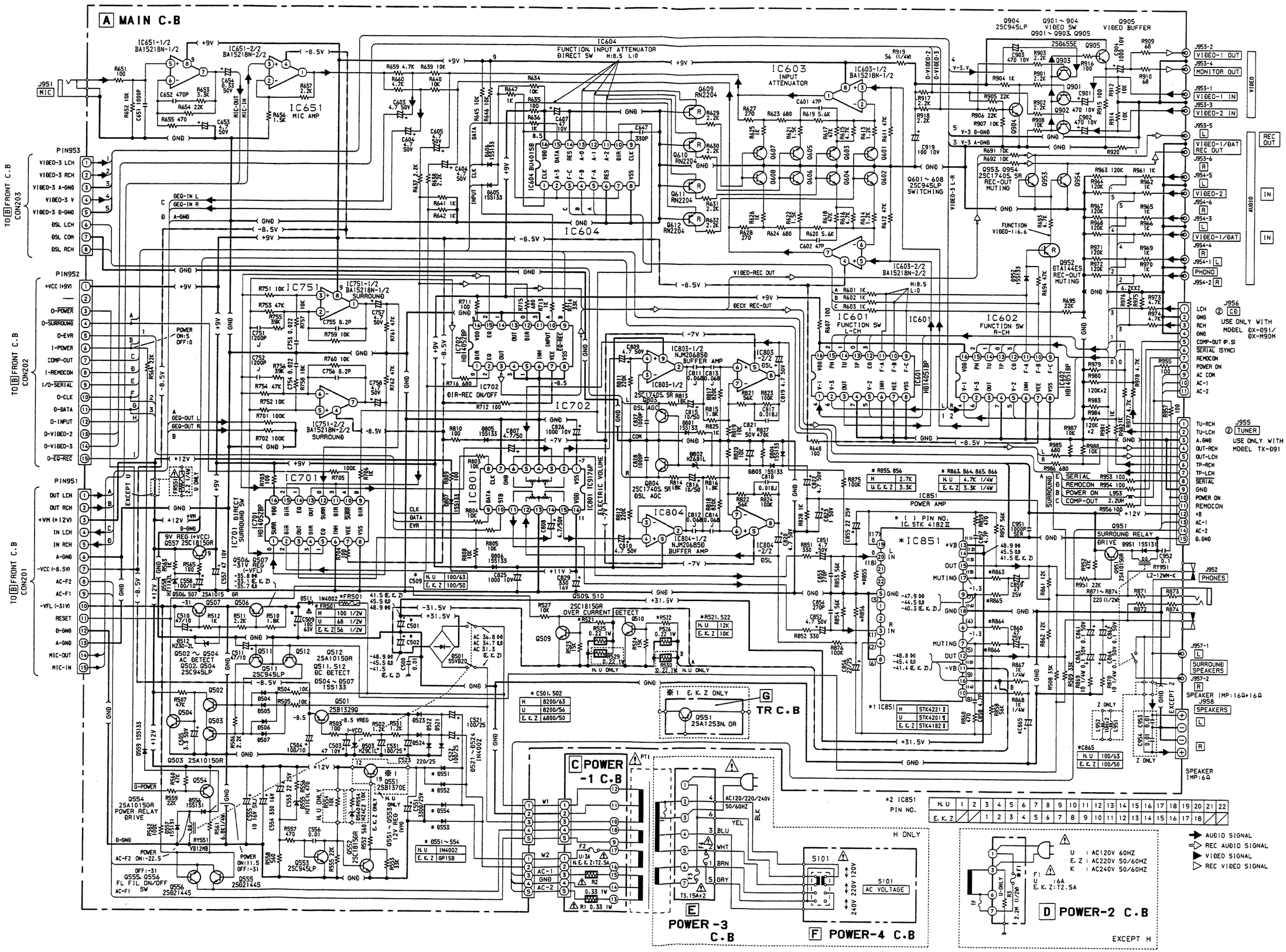


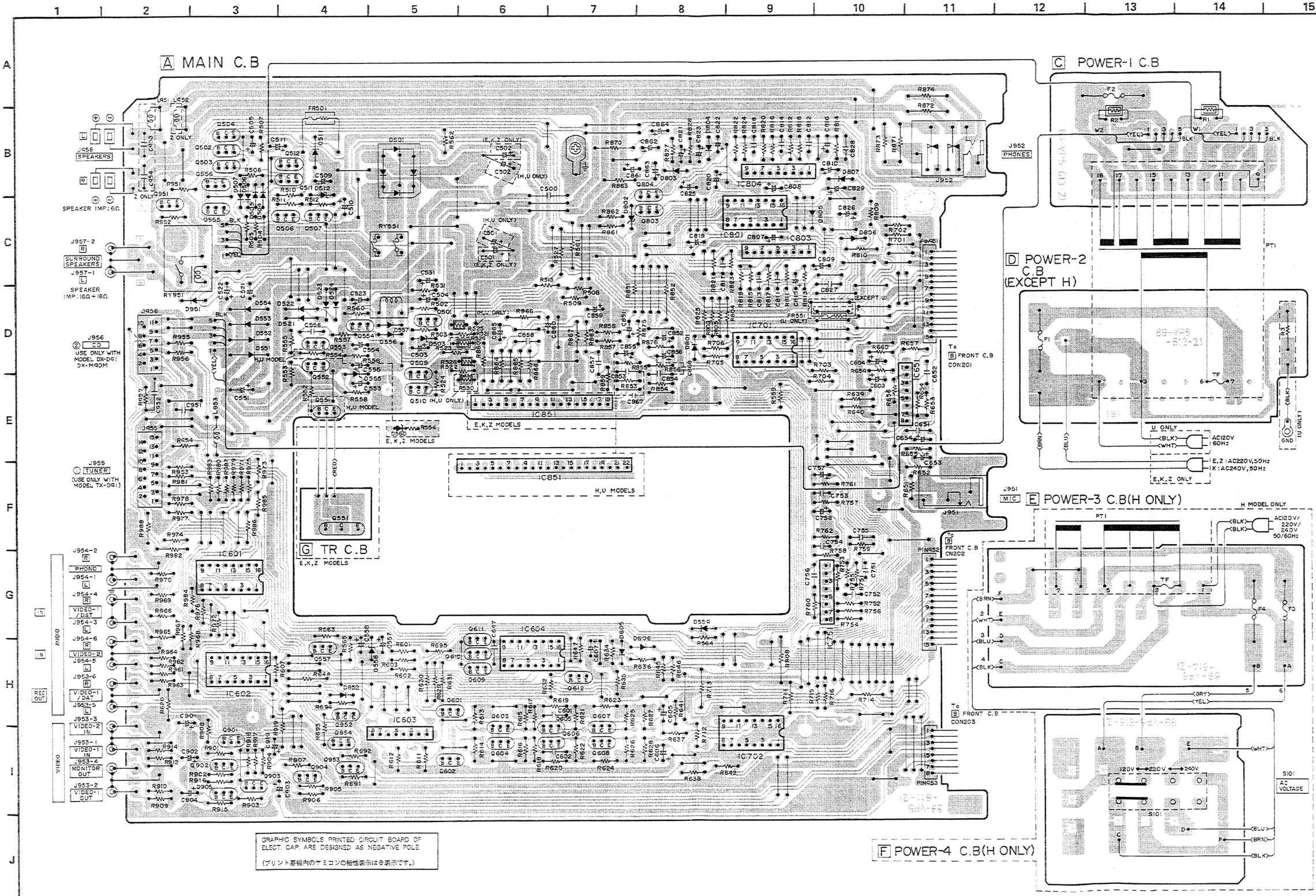

B FRONT C.B
FL101
DIGITAL SOURCE/WAKE UP VOLUME CONTROL
MONITOR
VIDEO1
VIDEO2
VIDEO3
REMOTE BALANCE
LEFT
RIGHT
FL102
GRAPHIC EQUALIZER/SPECTRAM ANALYZER
IC252
BAND PASS FILTER (SPEANA BPF)
XR-1091
IC253
BAND PASS FILTER SWITCHING
HD14051BP
IC251
LEVEL AMP
BA15218N
IC301, 302
GRAPHIC EQUALIZER
IC303
LC7522
ELECTRIC VR CONTROL
IC301
LA3607
IC302
LA3607
IC401
IC402
IC403
IC404
HD14052BP
BBE ON/OFF
IC151
LC4548H-4267
SYSTEM CONTROLLER
Q253
2SA1015GR
SWITCH
Q251, Q252
2SC945LP
COMPARATOR
Q151 ~ 158
GRID DRIVER
RE101
ROTARY ENCODER
VOLUME
Q101
2SC945L-P
LED CONTROL
LED1 ~ LED11
SLZ-981C
CF151
CST4.0MHz
VIDEO-3
CON203
CON202
CON201
TO A MAIN C.B P1N953
TO A MAIN C.B P1N952
TO A MAIN C.B P1N951
SFR401, 402
BBE LEVEL ADJ.
AUDIO SIGNAL
VIDEO SIGNAL

# B FRONT C.B


LED5 [5] S5 CLEAR S10
LED4 [4] S4 HS S9
LED3 [3] S3 VOCAL S8
LED2 [2] S2 SOFT S7
LED1 [1] S1 HEAVY S6
LED6 MANUAL / PROGRAM LED7
S17 15KHz ▲ / S24 ▼
S16 6KHz ▲ / S23 ▼
S15 2.5KHz ▲ / S22 ▼
S14 1KHz ▲ / S21 ▼
S13 350Hz ▲ / S20 ▼
S12 150Hz ▲ / S19 ▼
S11 60Hz ▲ / S18 ▼
S28 MEMORY
S27 CALIBRATION
S26 DISPLAY
S25 GEQ ON/OFF
FL101 DIGITAL SOURCE/WAKE UP VOLUME CONTROL
FL102 GRAPHIC EQUALIZER/SPECTRAM ANALYZER
RE101 VOLUME UP/DOWN
J201-1 J201-2 J201-3
R L V VIDEO-3 IN J201
S35 VIDEO-3
S34 VIDEO-2
VR202 DSL
S33 VIDEO-1/DAT
To A MAIN C.B PIN 53
VR401 BEE
S32 CD
S40 MUTING WAKE UP
S39, LED11 DIRECT RECORDING
To A MAIN C.B PIN 52
S31 PHONO
S38, LED10 BBE
S37, LED9 SURROUND
S30 TUNER
S36, LED8 CD/DAT DIRECT
MONITOR
S29 TAPE
VR201 MIC MIXING
To A MAIN C.B PIN 51
S41 POWER STANDBY/ON
GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.
(プリント基板内のケミコンの極性表示は⊖表示です。)

# SCHEMATIC DIAGRAM – 2 (MX – D91M)

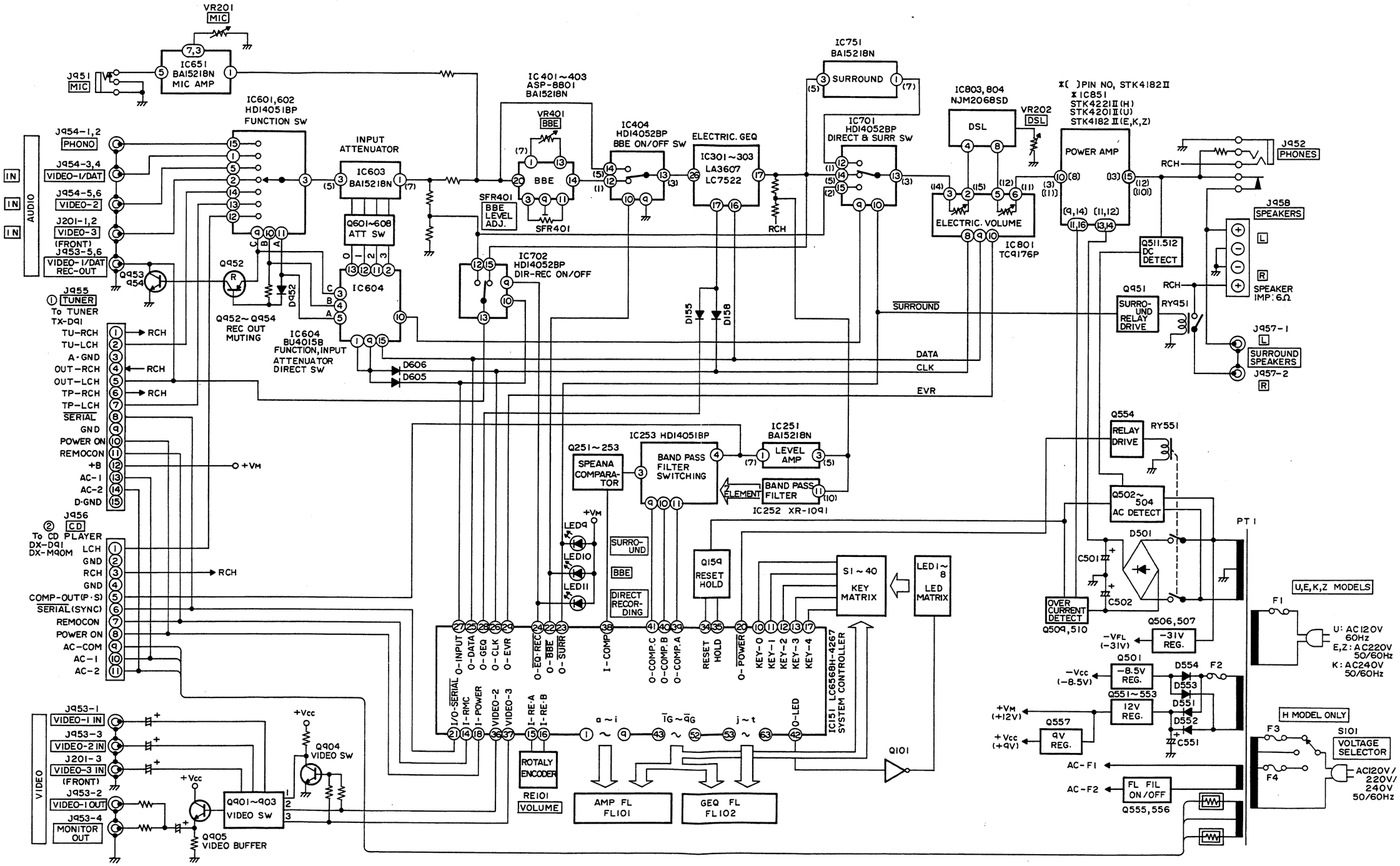





GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.

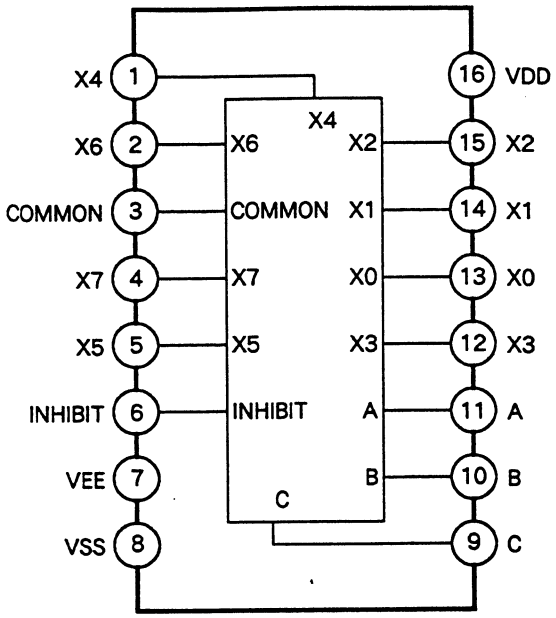
(プリント基板内のケミコンの極性表示は⊖表示です。)

# BLOCK DIAGRAM (MX – D91M)



# IC BLOCK DIAGRAM – 2 ,TRUTH TABLE (MX – D91M)

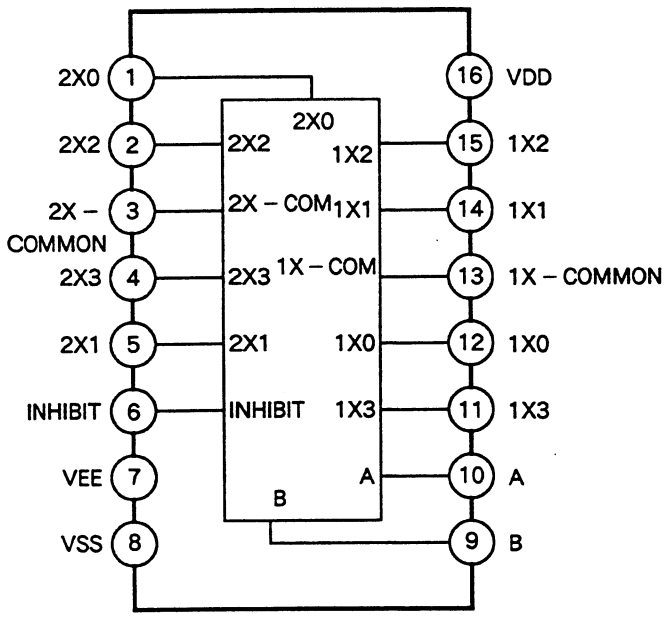
## IC,HD14051BP




HD14051BP

| CONTROL INPUT | | | ON SWITCH | FUNCTION |
|---|---|---|---|---|
| C | B | A | | |
| 0 | 0 | 0 | ×0 | TAPE |
| 0 | 0 | 1 | ×1 | TUNER |
| 0 | 1 | 0 | ×2 | PHONO |
| 0 | 1 | 1 | ×3 | CD |
| 1 | 0 | 0 | ×4 | VIDEO-1/DAT |
| 1 | 0 | 1 | ×5 | VIDEO-2 |
| 1 | 1 | 0 | ×6 | VIDEO-3 |
| 1 | 1 | 1 | ×7 | (MUTE) |

## IC,HD14052BP




HD14052BP

| CONTROL INPUT | | ON SWITCH | FUNCTION |
|---|---|---|---|
| B | A | | |
| 0 | 0 | ×0 | BBE ON |
| 0 | 1 | ×1 | BBE OFF |
| 1 | 0 | ×2 | —— |
| 1 | 1 | ×3 | —— |

GND O-$\overline{\text{BBE}}$

HD14052BP

| CONTROL INPUT | | ON SWITCH | FUNCTION |
|---|---|---|---|
| B | A | | |
| 0 | 0 | ×0 | SURROUND ON |
| 0 | 1 | ×1 | NORMAL |
| 1 | 0 | ×2 | DIRECT+SURROUND |
| 1 | 1 | ×3 | DIRECT ON |

DIRECT O-$\overline{\text{SURR}}$

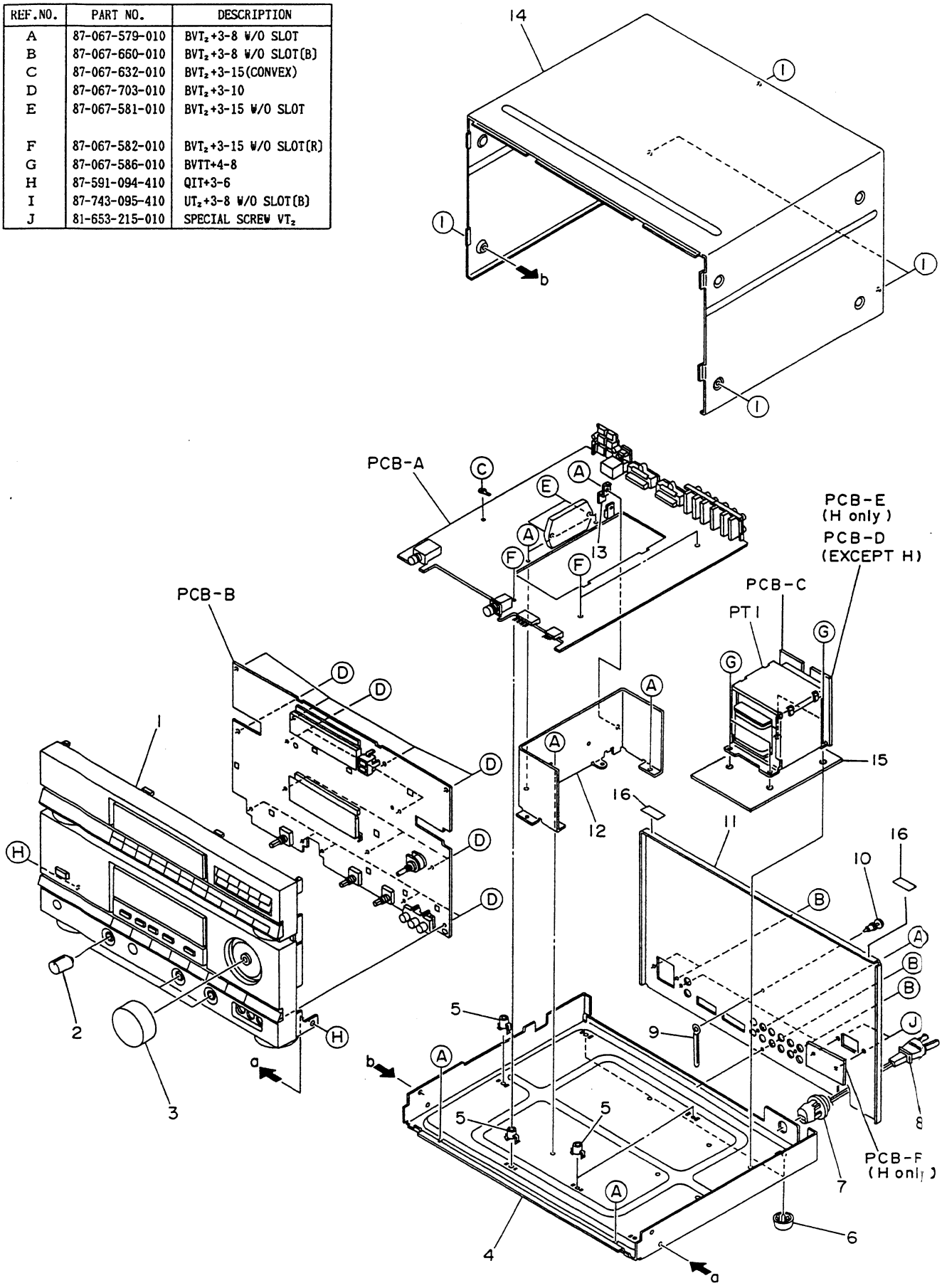
HD14052BP

| CONTROL INPUT | | ON SWITCH | FUNCTION |
|---|---|---|---|
| B | A | | |
| 0 | 0 | ×0 | DIRECT-REC |
| 0 | 1 | ×1 | (MUTE) |
| 1 | 0 | ×2 | NORMAL-REC |
| 1 | 1 | ×3 | (MUTE) |

O- O-INPUT
$\overline{\text{EQ-REQ}}$ (Usually O)

# EXPLODED VIEW (MX – D91M)

| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| A | 87-067-579-010 | $BVT_2$+3-8 W/O SLOT |
| B | 87-067-660-010 | $BVT_2$+3-8 W/O SLOT(B) |
| C | 87-067-632-010 | $BVT_2$+3-15(CONVEX) |
| D | 87-067-703-010 | $BVT_2$+3-10 |
| E | 87-067-581-010 | $BVT_2$+3-15 W/O SLOT |
| F | 87-067-582-010 | $BVT_2$+3-15 W/O SLOT(R) |
| G | 87-067-586-010 | BVTT+4-8 |
| H | 87-591-094-410 | QIT+3-6 |
| I | 87-743-095-410 | $UT_2$+3-8 W/O SLOT(B) |
| J | 81-653-215-010 | SPECIAL SCREW $VT_2$ |



# MECHANICAL PARTS LIST (MX – D91M)

| PART NO. CHANGED TO | REF. NO. | PART NO. | DESCRIPTION | COMMON MODEL | Q, TY |
|---|---|---|---|---|---|
| | 1 | ★09-047-561-010 | CABINET FRONT ASSY(D91 H) | * | 1 |
| | 1 | ★09-047-580-010 | CABINET FRONT ASSY(D91M U) | * | 1 |
| | 1 | ★09-047-581-010 | CABINET FRONT ASSY(D91M E,K) | * | 1 |
| | 1 | ★09-047-582-010 | CABINET FRONT ASSY(D91M H,D91M Z) | * | 1 |
| | 2 | ★89-VP5-006-010 | KNOB,ROTARY DSL | * | 3 |
| | 3 | ★89-VP5-005-019 | KNOB,ROTARY VOLUME | * | 1 |
| | 4 | --- | CHASSIS,MAIN | | 1 |
| | 5 | --- | HOLDER,P.C.B | | 4 |
| | 6 | ★87-085-213-019 | FOOT,H12.5 | | 2 |
| | 7 | ★87-085-185-010 | BUSHING,AC CORD(EXCEPT D91M U) | | 1 |
| | 7 | ★87-085-189-010 | BUSHING,AC CORD(D91M U) | | 1 |
| | 8 | ★82-187-797-019 | AC CORD(EXCEPT D91M U,D91M K) | | 1 |
| | 8 | ★87-034-589-019 | AC CORD(D91M U) | | 1 |
| | 8 | ★82-187-796-019 | AC CORD(D91M K) | | 1 |
| | 9 | --- | WIRE BINDER | | 1 |
| | 10 | ★87-084-077-019 | NYLON RIVET DIA 3.5-4.5 | | 1 |
| | 11 | ★89-VP5-030-010 | PANEL,REAR(D91 H) | * | 1 |
| | 11 | ★89-VP5-037-010 | PANEL,REAR(D91 HJ) | * | 1 |
| | 11 | ★89-VP5-050-010 | PANEL,REAR(D91M H) | * | 1 |
| | 11 | ★89-VP5-051-010 | PANEL,REAR(D91M HJ) | * | 1 |
| | 11 | ★89-VP5-031-010 | PANEL,REAR(D91M U) | * | 1 |
| | 11 | ★89-VP5-032-010 | PANEL,REAR(D91M E) | * | 1 |
| | 11 | ★89-VP5-033-010 | PANEL,REAR(D91M K) | * | 1 |
| | 11 | ★89-VP5-034-010 | PANEL,REAR(D91M Z) | * | 1 |
| | 12 | --- | HEAT SINK | | 1 |
| | 13 | --- | HOLDER,IC(D91 H,D91M H,U) | | 1 |
| | 14 | ★89-VP5-027-010 | CABINET,STEEL | * | 1 |
| | 15 | --- | SHIELD,PT | | 1 |
| | 16 | ★82-179-259-019 | SHEET,PVC 4-12 | | 2 |

MODEL NO.

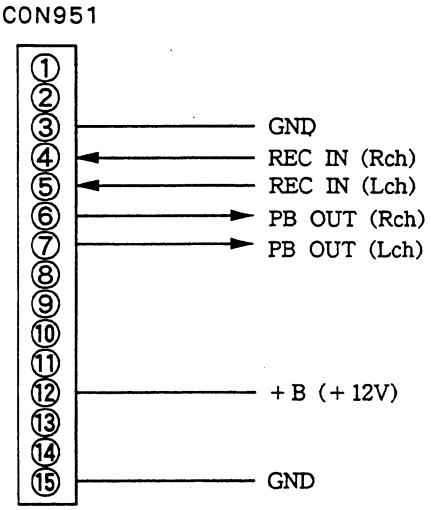
# FX – W91/W919

## CAUTIONS WHEN SERVICING (FX – W91/W919)

Model FX – W91/W919 does not have a power supply circuit.
Power is supplied to it through a 15 – pin flat cable and the signal inputs/outputs are also performed through this cable.
When servicing the FX – W91/W919 connect it to the MX – D91/D91M so power is supplied to the FX – W91/W919.
If the MX – D91/D91M is not available, follow the procedure below.

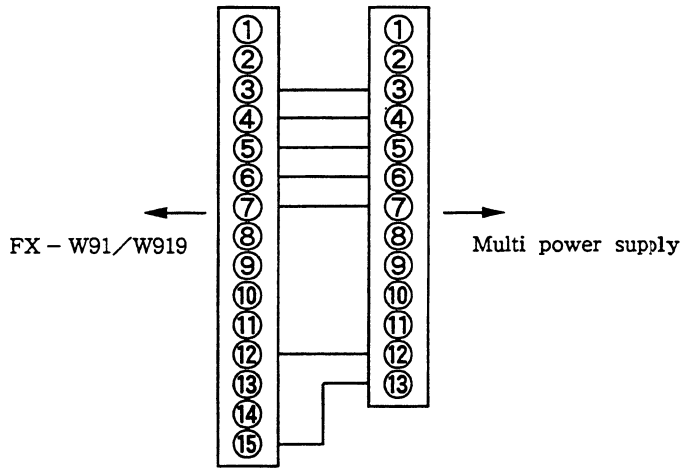
[When servicing the unassembled FX – W91/W919]

① Supply the following voltages to each terminal from an external power supply.

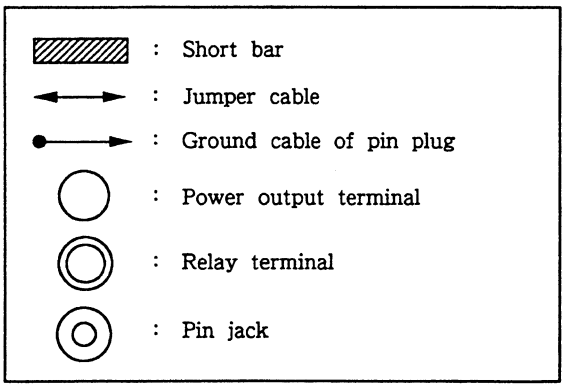


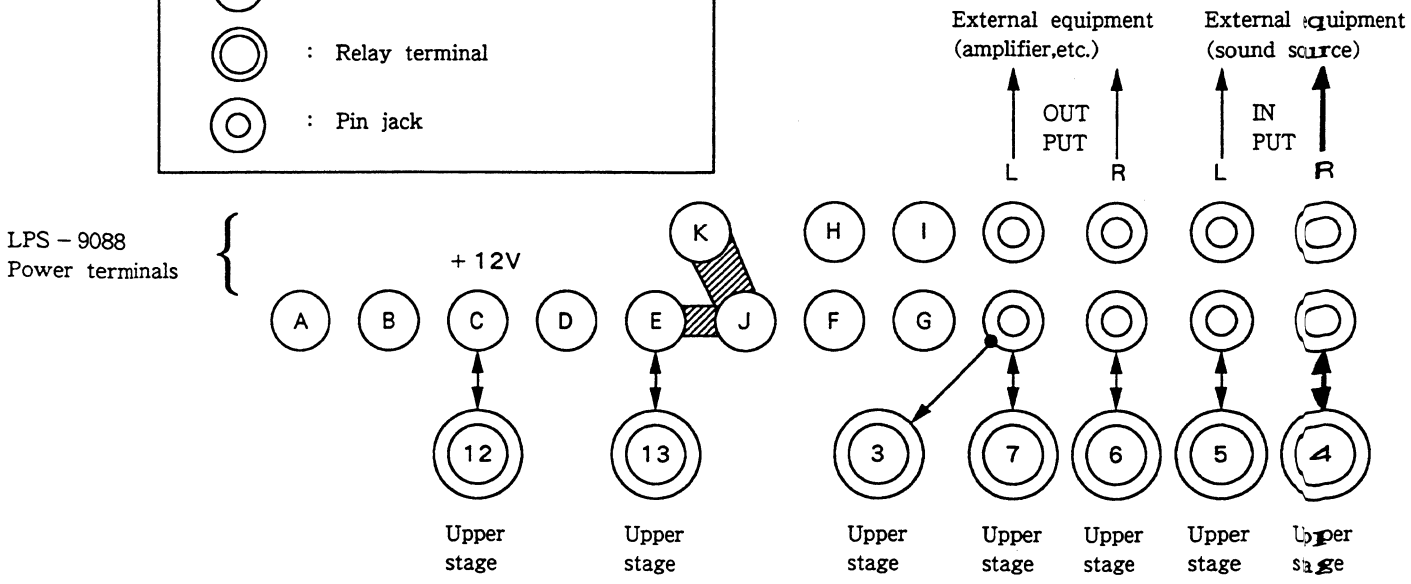

② Connection diagram when using multi power supply (LPS – 9088)

• Connect a multi – conversion harness for the Model CU – D91 to J1.




Connect a multi – conversion harness



# ELECTRICAL MAIN PARTS LIST (FX－W91／W919)

| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| | **=== IC ===** | |
| | 87-001-440-010 | IC,BA15218N |
| | 87-001-908-010 | IC,CXA1332S |
| | 87-001-873-010 | IC,LB1644 |
| | S6-804-060-020 | IC,LB9050A |
| | 89-VW5-605-010 | IC,LC6568H-4256 |
| | 87-020-533-010 | IC,M4069UBP |
| | 87-020-758-010 | IC,NJM2068SD |
| | 87-020-908-010 | IC,NJU4066BD |
| | **=== TRANSISTOR ===** | |
| | 89-502-465-019 | FET,2SK246GR |
| | 87-026-463-010 | TRANSISTOR,2SA933S(SR) |
| | 89-109-521-010 | TRANSISTOR,2SA952K |
| | 89-110-155-010 | TRANSISTOR,2SA1015GR |
| | 89-112-965-010 | TRANSISTOR,2SA1296GR |
| | 89-113-184-010 | TRANSISTOR,2SA1318T |
| | 87-026-462-010 | TRANSISTOR,2SC1740S(SR) |
| | 89-318-155-010 | TRANSISTOR,2SC1815GR |
| | 89-406-555-010 | TRANSISTOR,2SD655E |
| | S6-804-050-040 | TRANSISTOR,ESA1266 |
| | **=== DIODE ===** | |
| | 87-001-559-010 | DIODE,1SS131 |
| | 87-020-465-010 | DIODE,1SS133 |
| | 87-020-123-010 | DIODE,DS446 |
| | 87-027-475-010 | DIODE,ZENER HZ6B1 |
| | 87-027-332-010 | DIODE,ZENER HZ6B1L |
| | **=== MAIN CIRCUIT BOARD SECTION ===** | |
| C101 | ★87-018-123-010 | CAP,CERA-SOL 220P-50 |
| C102 | ★87-018-123-010 | CAP,CERA-SOL 220P-50 |
| C103 | ★87-018-115-010 | CAP,CERA-SOL 47P-50 SL |
| C104 | ★87-018-115-010 | CAP,CERA-SOL 47P-50 SL |
| C111 | ★87-010-404-010 | CAP,ELECT 4.7-50 SME |
| C112 | ★87-010-404-010 | CAP,ELECT 4.7-50 SME |
| C113 | ★87-010-101-010 | CAP,ELECT 220-16 SME |
| C114 | ★87-018-134-010 | CAP,CERA-SOL SS 0.01-16 |
| C115 | ★87-018-131-010 | CAP,CERA-SOL 1000P-50(W919) |
| C201 | ★87-018-120-010 | CAP,CERA-SOL 330P-50 |
| C202 | ★87-018-120-010 | CAP,CERA-SOL 330P-50 |
| C203 | ★87-018-115-010 | CAP,CERA-SOL 47P-50 SL |
| C204 | ★87-018-115-010 | CAP,CERA-SOL 47P-50 SL |
| C209 | ★87-018-123-010 | CAP,CERA-SOL 220P-50 |
| C210 | ★87-018-123-010 | CAP,CERA-SOL 220P-50 |
| C211 | ★87-010-404-010 | CAP,ELECT 4.7-50 SME |
| C212 | ★87-010-404-010 | CAP,ELECT 4.7-50 SME |
| C213 | ★87-010-404-010 | CAP,ELECT 4.7-50 SME |
| C214 | ★87-010-404-010 | CAP,ELECT 4.7-50 SME |
| C215 | ★87-010-101-010 | CAP,ELECT 220-16 SME |
| C216 | ★87-018-134-010 | CAP,CERA-SOL SS 0.01-16 |
| C217 | ★87-010-401-010 | CAP,ELECT 1-50 SME |
| C218 | ★87-010-401-010 | CAP,ELECT 1-50 SME |
| C219 | ★87-018-131-010 | CAP,CERA-SOL 1000P-50(W919) |
| C251 | ★87-018-133-010 | CAP,CERA-SOL 4700P-16 |
| C252 | ★87-018-100-010 | CAP,CERA-SOL 4.7P-50 SL |
| C253 | ★87-018-132-010 | CAP,CERA-SOL 2200P-16 |
| C255 | ★87-018-121-010 | CAP,CERA-SOL 150P-50 |
| C256 | ★87-010-374-010 | CAP,ELECT 47-10 |
| C257 | ★87-010-401-010 | CAP,ELECT 1-50 SME |
| C258 | ★87-018-100-010 | CAP,CERA-SOL 4.7P-50 SL |
| C259 | ★87-018-131-010 | CAP,CERA-SOL 1000P-50 |
| C301 | ★87-018-119-010 | CAP,CEAR-SOL 100P-50 |

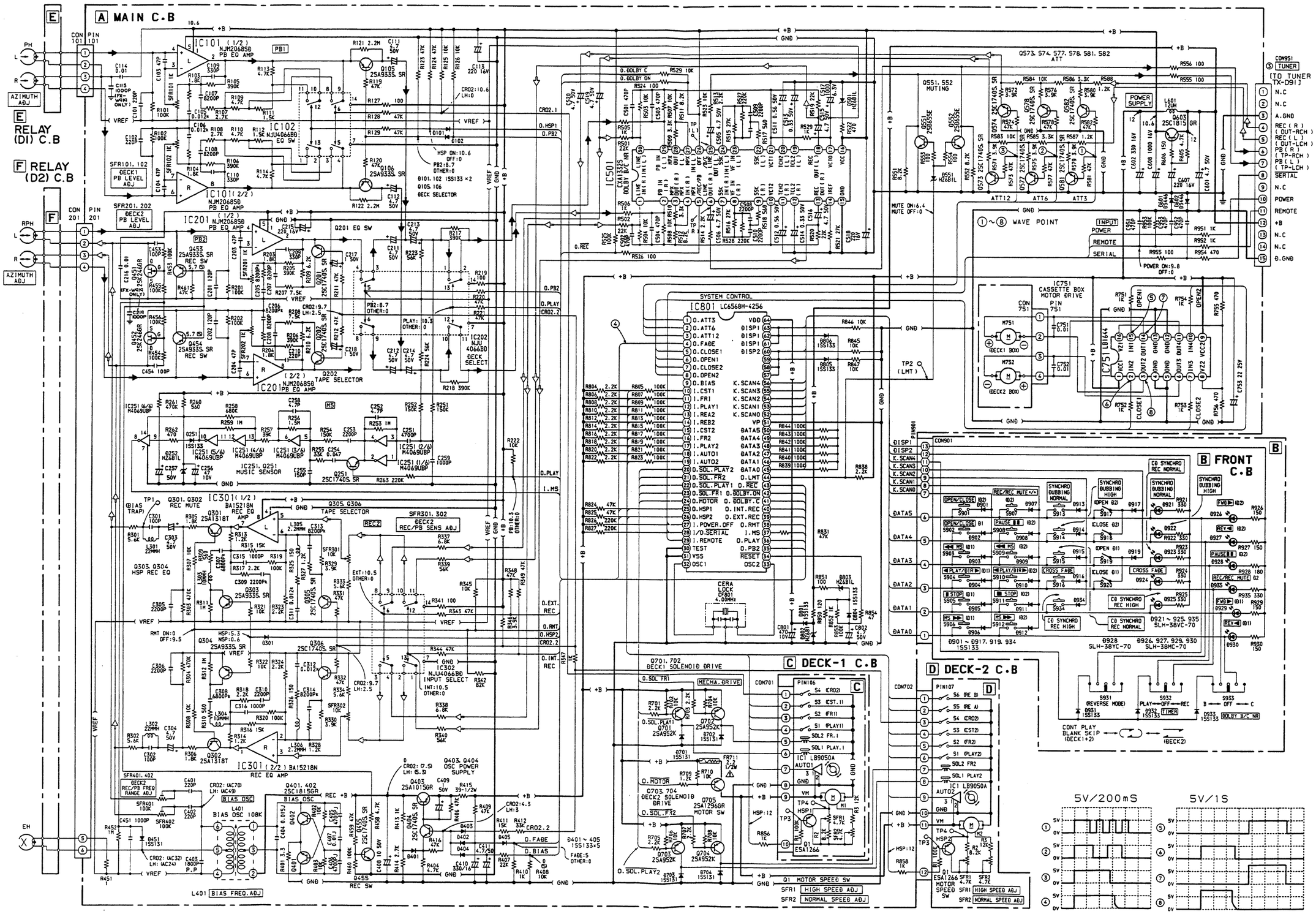
| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| C302 | ★87-018-119-010 | CAP,CEAR-SOL 100P-50 |
| C303 | ★87-010-404-010 | CAP,ELECT 4.7-50 SME |
| C304 | ★87-010-404-010 | CAP,ELECT 4.7-50 SME |
| C305 | ★87-018-132-010 | CAP,CERA-SOL 2200P-16 |
| C306 | ★87-018-132-010 | CAP,CERA-SOL 2200P-16 |
| C315 | ★87-018-131-010 | CAP,CERA-SOL 1000P-50 |
| C316 | ★87-018-131-010 | CAP,CERA-SOL 1000P-50 |
| C401 | ★87-018-123-010 | CAP,CERA-SOL 220P-50 |
| C402 | ★87-018-123-010 | CAP,CERA-SOL 220P-50 |
| C403 | ★87-014-063-010 | CAP,PP 1800P |
| C408 | ★87-010-405-010 | CAP,ELECT 10-50 SME |
| C409 | ★87-010-401-010 | CAP,ELECT 1-50 SME |
| C410 | ★87-010-381-010 | CAP,ELECT 330-16 SME |
| C411 | ★87-010-404-010 | CAP,ELECT 4.7-50 SME |
| C451 | ★87-018-131-010 | CAP,CERA-SOL 1000P-50 |
| C453 | ★87-018-119-010 | CAP,CEAR-SOL 100P-50 |
| C454 | ★87-018-119-010 | CAP,CEAR-SOL 100P-50 |
| C501 | ★87-018-127-010 | CAP,CERA-SOL 470P-50 |
| C502 | ★87-018-127-010 | CAP,CERA-SOL 470P-50 |
| C503 | ★87-018-127-010 | CAP,CERA-SOL 470P-50 |
| C504 | ★87-018-127-010 | CAP,CERA-SOL 470P-50 |
| C505 | ★87-010-404-010 | CAP,ELECT 4.7-50 SME |
| C506 | ★87-010-404-010 | CAP,ELECT 4.7-50 SME |
| C507 | ★87-018-132-010 | CAP,CERA-SOL SS 2200P-16 |
| C508 | ★87-018-132-010 | CAP,CERA-SOL SS 2200P-16 |
| C509 | ★87-018-132-010 | CAP,CERA-SOL SS 2200P-16 |
| C510 | ★87-018-132-010 | CAP,CERA-SOL SS 2200P-16 |
| C511 | ★87-010-808-010 | CAP,ELECT 0.56-50 SME |
| C512 | ★87-010-808-010 | CAP,ELECT 0.56-50 SME |
| C513 | ★87-010-546-010 | CAP,ELECT 0.33-50 SME |
| C514 | ★87-010-546-010 | CAP,ELECT 0.33-50 SME |
| C515 | ★87-010-404-010 | CAP,ELECT 4.7-50 SME |
| C516 | ★87-010-404-010 | CAP,ELECT 4.7-50 SME |
| C517 | ★87-010-252-010 | CAP,ELECT 1000-6.3 |
| C518 | ★87-010-101-010 | CAP,ELECT 220-16 SME |
| C519 | ★87-010-404-010 | CAP,ELECT 4.7-50 SME |
| C520 | ★87-010-404-010 | CAP,ELECT 4.7-50 SME |
| C601 | ★87-010-404-010 | CAP,ELECT 4.7-50 SME |
| C602 | ★87-010-381-010 | CAP,ELECT 330-16 SME |
| C607 | ★87-010-101-010 | CAP,ELECT 220-16 SME |
| C608 | ★87-010-237-010 | CAP,ELECT 1000-16 |
| C751 | ★87-018-134-010 | CAP,CERA-SOL 0.01-16 |
| C752 | ★87-018-134-010 | CAP,CERA-SOL 0.01-16 |
| C753 | ★87-010-382-010 | CAP,ELECT 22-25 SME |
| C801 | ★87-010-221-010 | CAP,ELECT 470-10 |
| C802 | ★87-010-404-010 | CAP,ELECT 4.7-50 SME |
| CF801 | ★87-030-167-010 | CERA LOCK CST4.0MHZ |
| ⚠FR711 | 87-029-019-010 | RES,FUSE 2.2-1/2W |
| L301 | ★82-231-629-010 | COIL 22MMH |
| L302 | ★82-231-629-010 | COIL 22MMH |
| L303 | ★87-003-131-010 | COIL 10MMH |
| L304 | ★87-003-131-010 | COIL 10MMH |
| L305 | ★87-003-123-010 | COIL 2.2MMH |
| L306 | ★87-003-123-010 | COIL 2.2MMH |
| L401 | ★81-693-608-010 | COIL OSC BIAS 108K |
| L601 | ★87-003-060-010 | COIL 12UH |
| SFR101 | ★87-024-168-010 | SFR 1K |
| SFR102 | ★87-024-168-010 | SFR 1K |
| SFR201 | ★87-024-168-010 | SFR 1K |
| SFR202 | ★87-024-168-010 | SFR 1K |
| SFR301 | ★87-024-172-010 | SFR 10K |
| SFR302 | ★87-024-172-010 | SFR 10K |
| SFR401 | ★87-024-176-010 | SFR 100K |
| SFR402 | ★87-024-176-010 | SFR 100K |



| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| | **=== FRONT CIRCUIT BOARD SECTION ===** | |
| C951 | ★87-018-127-010 | CAP,CERA-SOL 470P-50 |
| C952 | ★87-018-127-010 | CAP,CERA-SOL 470P-50 |
| C953 | ★87-018-127-010 | CAP,CERA-SOL 470P-50 |
| D921 | 89-VW5-607-010 | LED SLH-38VC(SYNC.DUBB.NORM.) |
| D922 | 89-VW5-607-010 | LED SLH-38VC(SYNC.DUBB.NORM.) |
| D923 | 89-VW5-607-010 | LED SLH-38VC(CD.SYNC REC NORM.) |
| D924 | 89-VW5-607-010 | LED SLH-38VC(CROSS FADE) |
| D925 | 89-VW5-607-010 | LED SLH-38VC(CD.SYNC REC HIGH) |
| D926 | 89-VW5-606-010 | LED SLH-38MC(FWD,D2) |
| D927 | 89-VW5-606-010 | LED SLH-38MC(REV,D2) |
| D928 | 89-VW5-608-010 | LED SLH-38YC(PAUSE,D2) |
| D929 | 89-VW5-606-010 | LED SLH-38MC(FWD,D1) |
| D930 | 89-VW5-606-010 | LED SLH-38MC(REV,D1) |
| D935 | 89-VW5-607-010 | LED SLH-38VC(REC/REC MUTE,D2) |
| S901 | 87-036-142-010 | TACT SW(OPEN/CLOSE,D2) |
| S902 | 87-036-142-010 | TACT SW(OPEN/CLOSE,D1) |
| S903 | 87-036-142-010 | TACT SW(⏮MS,D1) |
| S904 | 87-036-142-010 | TACT SW(PLAY/DIR,D1) |
| S905 | 87-036-142-010 | TACT SW(STOP,D1) |
| S906 | 87-036-142-010 | TACT SW(MS⏭,D1) |
| S907 | 87-036-142-010 | TACT SW(REC/REC MUTE,D2) |
| S908 | 87-036-142-010 | TACT SW(PAUSE,D2) |
| S909 | 87-036-142-010 | TACT SW(MS⏮,D2) |
| S910 | 87-036-142-010 | TACT SW(PLAY/DIR,D2) |
| S911 | 87-036-142-010 | TACT SW(STOP,D2) |
| S912 | 87-036-142-010 | TACT SW(MS⏭,D2) |
| S913 | 87-036-142-010 | TACT SW(SYNC.DUBB.NORM.) |
| S914 | 87-036-142-010 | TACT SW(SYNC.DUBB.HIGH) |
| S915 | 87-036-142-010 | TACT SW(CD SYNC.REC NORM.) |
| S916 | 87-036-142-010 | TACT SW(CROSS FADE) |
| S917 | 87-036-110-010 | PUSH SW(OPEN,D2) |
| S918 | 87-036-109-010 | PUSH SW(CLOSE,D2) |
| S919 | 87-036-109-010 | PUSH SW(OPEN,D1) |
| S920 | 87-036-110-010 | PUSH SW(CLOSE,D1) |
| S931 | 87-036-087-010 | SLIDE SW(REV MODE) |
| S932 | 87-036-087-010 | SLIDE SW(TIMER) |
| S933 | 87-036-087-010 | SLIDE SW(DOLBY-B/C NR) |
| S934 | 87-036-142-010 | TACT SW(CD SYNC.REC HIGH) |
| | **=== DECK-1 CIRCUIT BOARD SECTION ===** | |
| S1 | S6-401-011-740 | LEAF SW(PLAY) |
| S2 | S6-401-011-750 | LEAF SW(FR) |
| S3 | S6-401-011-730 | LEAF SW(CST) |
| S4 | S6-401-011-730 | LEAF SW(CR02) |
| SFR1 | ★S6-816-010-010 | SFR 4.7K |
| SFR2 | ★S6-816-010-010 | SFR 4.7K |
| SOL1 | S1-880-210-130 | SOLENOID(PLAY) |
| SOL2 | S1-880-210-130 | SOLENOID(F/R) |
| | **=== DECK-2 CIRCUIT BOARD SECTION ===** | |
| S1 | S6-401-011-740 | LEAF SW(PLAY) |
| S2 | S6-401-011-750 | LEAF SW(FR) |
| S3 | S6-401-011-730 | LEAF SW(CST) |
| S4 | S6-401-011-730 | LEAF SW(CR02) |
| S5 | S6-401-011-730 | LEAF SW(REA) |
| S6 | S6-401-011-730 | LEAF SW(REB) |
| SFR1 | ★S6-816-010-010 | SFR 4.7K |
| SFR2 | ★S6-816-010-010 | SFR 4.7K |
| SOL1 | S1-880-210-130 | SOLENOID(PLAY) |
| SOL2 | S1-880-210-130 | SOLENOID(F/R) |
| | **=== RELAY(D1) CIRCUIT BOARD SECTION ===** | |

| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| | **=== RELAY(D2) CIRCUIT BOARD SECTION ===** | |
| | **=== MISCELLANEOUS ===** | |
| CON951 | 89-VW5-610-010 | CORD,FG 15P(3.TUNER) |
| M1 | S6-005-030-420 | MOTOR MMI-6H2LWK(D1) |
| M2 | S6-005-030-420 | MOTOR MMI-6H2LWK(D2) |
| M751 | 87-045-305-010 | MOTOR RF-500TB(D1)(BOX) |
| M752 | 87-045-305-010 | MOTOR RF-500TB(D2)(BOX) |
| PH | S6-204-070-090 | PB HEAD(D1) |
| RPEH | S6-204-040-010 | R/P/E,HEAD(D2) |

# SCHEMATIC DIAGRAM (FX – W91/W919)



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

A B C D E F G H I J K

A MAIN C.B

CON951
3 TUNER
To TUNER TX-D91
WHT
BLK

To E FRONT C.B CON901

GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.

(プリント基板内のケミコンの極性表示は⊖表示です。)

To F RELAY (D2) C.B CON201

To D DECK-2 C.B PIN107

To C DECK-1 C.B PIN106

To CHASSIS GND (FX-W919 ONLY)

To CHASSIS GND (FX-W919 ONLY)

To E RELAY (D1) C.B CON101

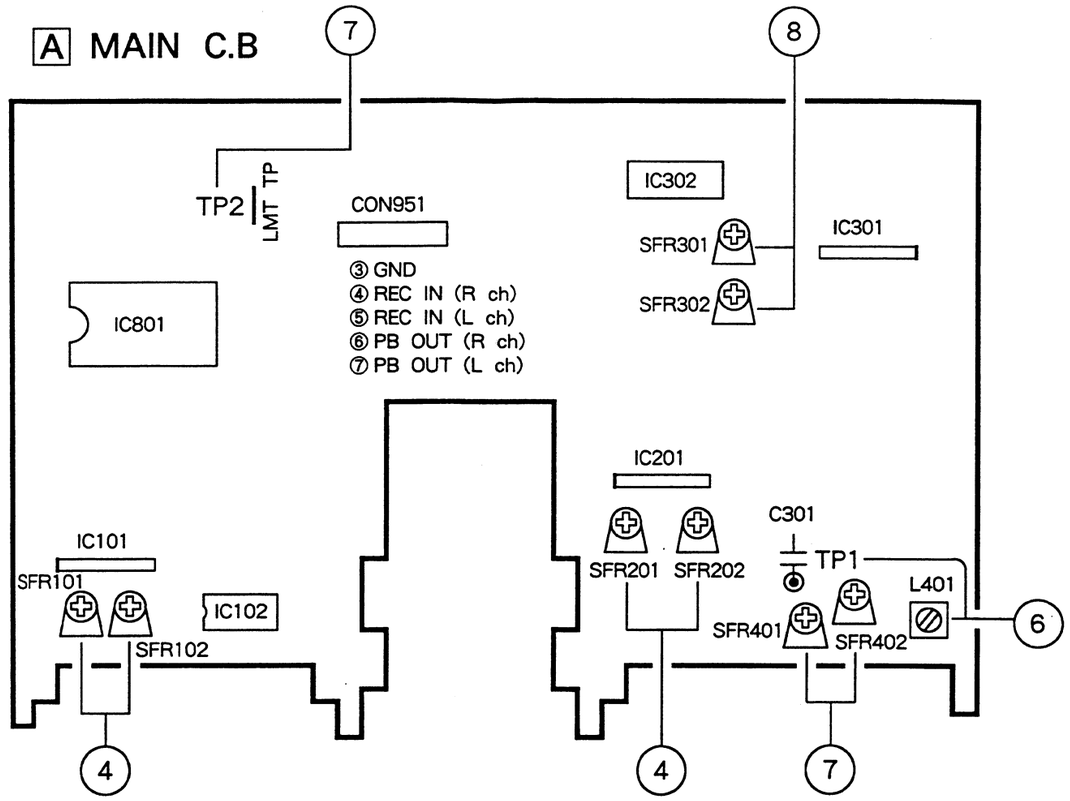
M752 (LOADING MOTOR, D2)

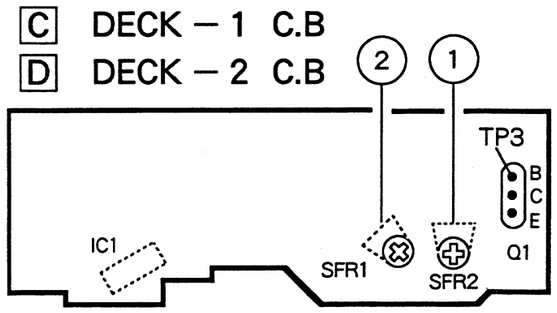
M751 (LOADING MOTOR, D1)

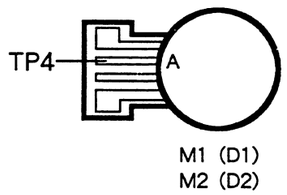
CON751

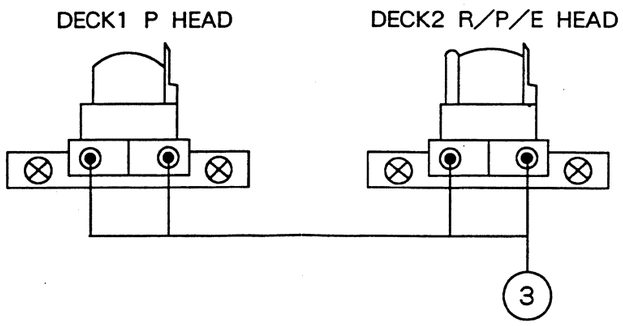
CON702

CON701






1. Normal Speed Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTA – 100 (TTA – 111S)
   • Test point : PB – OUT (CON951)
   • Adjustment Location : SFR2 (DECK1, 2)
   Method : Play back the test tape, adjust for 3000Hz.

2. High Speed Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTA – 100 (TTA – 111S)
   • Test point : PB – OUT (CON951)
   • Adjustment Location : SFR1 (DECK1, 2)
   Method : Play back the test tape, and make the high speed condition to be shorted between TP3 and TP4. Adjust for 5400Hz ± 15Hz.

3. Head Azimuth Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTS – 310
   (TTA – 317E, SCC – 1429)
   • Test point : PB – OUT (CON951)
   • Adjustment Location : Head azimuth adjustment screw
   Method : Play back the 10kHz signal of the test tape and adjust so that the output becomes maximum.
   Next, perform on each FWD PLAY and REV PLAY mode.

4. PB Level Adjustment (DECK1, DECK2)
   Settings : • Test tape : TTS – 200 (TTA – 161, TCC – 130)
   • Test point : PB – OUT (CON951)
   • Adjustment Location : SFR101 (DECK1, Lch)
   SFR102 (DECK1, Rch)
   SFR201 (DECK2, Lch)
   SFR202 (DECK2, Rch)
   Method : Play back the test tape and adjust so that the output becomes 300mV ± 20mV.

5. PB Frequency Response Check (DECK1, DECK2)
   Settings : • Test tape : TTS – 310
   (TTA – 317E, SCC – 1429)
   • Test point : PB – OUT (CON951)
   Method : Play the 315Hz and 10kHz signals of the test tape and check the output of the 10kHz signal is 0dB ± 2.5dB with respect to that of the 315Hz signal.

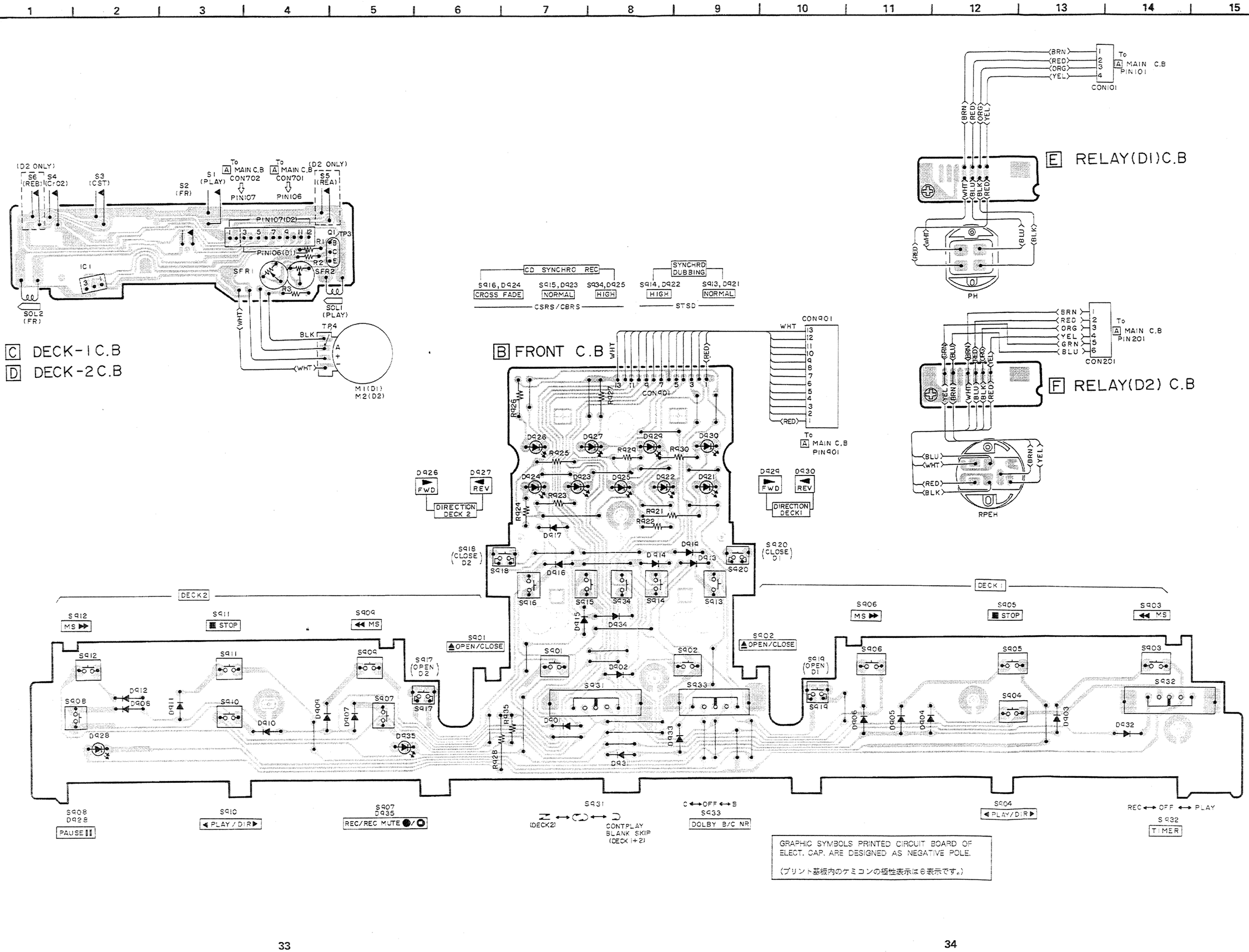
6. Bias Frequency Adjustment (DECK2)
   Settings : • Test tape : TTA – 600 (TTA – 119K)
   • Test point : TP1
   • Adjustment Location : L401
   Method : Set DECK2 to the record mode and adjust L401 so that the frequency at TP1 is 108kHz ± 1kHz.

7. REC/PB Frequency Response Adjustment (DECK2)
   Settings : • Test tape : TTA – 600 (TTA – 119K)
   • Test point : PB – OUT (CON951)
   • Input signal : REC – IN (CON951)
   • Adjustment Location : SFR401 (Lch)
   SFR402 (Rch)
   Method : Connect TP2 (LMT TP) to ground (chassis), apply a 1kHz signal and adjust attenuator so that the level at the PB OUT is 21mV.
   Record and play back the 1kHz and 10kHz signals and adjust so that the output level of 10kHz signal is 0dB + 2dB, – 0.5dB for 1kHz signal. After adjustment, remove the grounding lead wire.

8. REC/PB Sensitivity Adjustment (DECK2)
   Settings : • Test tape : TTA – 600 (TTA – 119K)
   • Test point : PB – OUT (CON951)
   • Input signal : REC – IN (CON951)
   • Adjustment Location : SFR301 (Lch)
   SFR302 (Rch)
   Method : Connect TP2 (LMT TP) to ground (chassis), apply a 1kHz signal and adjust attenuator so that the level at the PB OUT is 21mV.
   Record and play back the 1kHz signal and adjust SFR301 and SFR302 so that the output level of is 21mV ± 1.5dB. After adjustment, remove the grounding lead wire.

## PRACTICAL SERVICE FIGURE (FX – W91/W919)

| | |
|---|---|
| PB output level : | 300mV ± 1dB<br>TTS – 200<br>(TTA – 161, TCC – 130) |
| REC/PB output level : | 210mV ± 1dB<br>(PB OUT, – 16.5dBV 1kHz) |
| Distortion (REC/PB) : | Less than 2.0% (NORM., CrO2) |
| Erasing ratio : | More than 60dB |
| Crosstalk : | More than 60dB |
| Channel separation : | More than 30dB |
| Noise (REC/PB) : | Less than 3.3mV/1.6mV/<br>1.3mV (DOLBY OFF/B/C<br>NORM.)<br>Less than 2.2mV/1.3mV/<br>1.0mV (DOLBY OFF/B/C<br>CrO2) |
| Noise (PB) : | Less than 3.2mV/1.5mV/<br>1.2mV (DOLBY OFF/B/C<br>NORM.)<br>Less than 2.2mV/1.2mV/<br>1.0mV (DOLBY OFF/B/C<br>CrO2) |
| Recording bias frequency : | 108kHz |
| Tape speed : | 3000Hz ± 1.5% |
| Wow & flutter (W.RMS) : | Less than 0.135% (DECK1, 2) |
| Take – up torque : | 30~60g-cm (DECK1, 2) |
| F.F & REW torque : | 55~120g-cm (DECK1, 2) |
| Back tension : | 2~6g-cm (DECK1, 2) |
| Test tape : | NORMAL : TTA – 600<br>(TTA – 119K)<br>CrO2 : TTA – 610 (TTA – 119H) |


C DECK-1 C.B
D DECK-2 C.B
B FRONT C.B
E RELAY(D1)C.B
F RELAY(D2) C.B
(D2 ONLY)
S6 (REB)
S4 (CUE2)
S3 (CST)
S2 (FR)
S1 (PLAY)
S5 (REA)
To A MAIN C.B CON702 PIN107
To A MAIN C.B CON701 PIN106
PIN107(D2)
PIN106(D1)
IC1
Q1
TP3
TP4
R1
R2
R5
SFR1
SFR2
SOL2 (FR)
SOL1 (PLAY)
BLK
WHT
M1(D1) M2(D2)
CD SYNCHRO REC
S916, D924 CROSS FADE
S915, D923 NORMAL
S934, D925 HIGH
CSRS/CBRS
SYNCHRD DUBBING
S914, D922 HIGH
S913, D921 NORMAL
STSD
CON901
To A MAIN C.B PIN901
R926
R927
CON401
D926 FWD
D927 REV
DIRECTION DECK 2
D929 FWD
D930 REV
DIRECTION DECK1
R925
R929
R930
R923
R921
R922
R924
D917
D916
D914
D913
D915
D934
S918 (CLOSE) D2
S920 (CLOSE) D1
S916
S915
S934
S914
S913
DECK2
DECK1
S912 MS
S911 STOP
S909 MS
S901 OPEN/CLOSE
S902 OPEN/CLOSE
S906 MS
S905 STOP
S903 MS
S917 (OPEN) D2
S919 (OPEN) D1
S908 D928 PAUSE
S910 PLAY/DIR
S907 D935 REC/REC MUTE
S931 (DECK2) CONTPLAY BLANK SKIP (DECK 1+2)
C←→OFF←→B S933 DOLBY B/C NR
S904 PLAY/DIR
REC←→OFF←→PLAY S932 TIMER
D901
D902
D931
D933
S931
S933
R928
R935
D912
D906
D911
D910
D904
D907
D935
D903
D905
D932
CON101
To A MAIN C.B PIN101
CON201
To A MAIN C.B PIN201
PH
RPEH
GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.
(プリント基板内のケミコンの極性表示は⊖表示です。)

# IC DESCRIPTION (FX－W91／W919)

## IC,LC6568H－4256

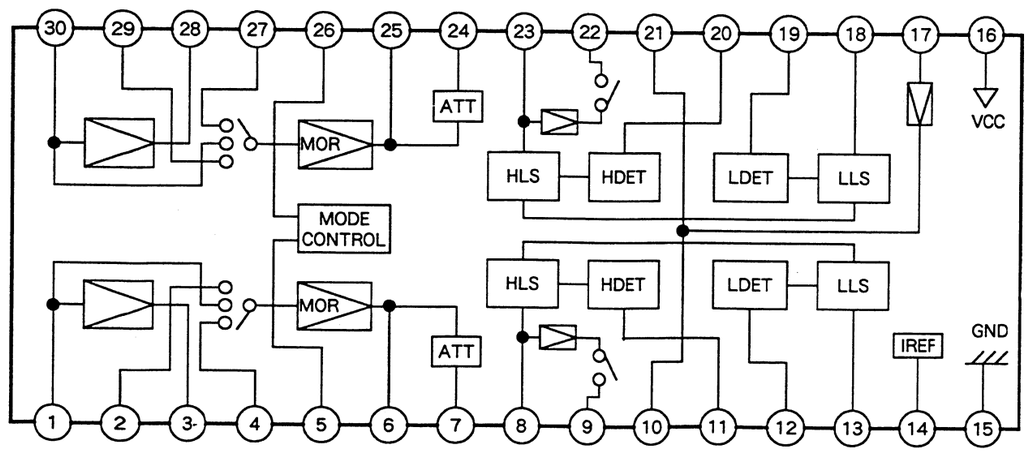
| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | O・ATT3 | O | Input signal level control output from the cross fade. Active "H". |
| 2 | O・ATT6 | O | |
| 3 | O・ATT12 | O | |
| 4 | O・FADE | O | DECK 2 Recording bias oscillation output at the CBRS and cross fade. Active "H". |
| 5 | O・CLOSE1 | O | DECK 1 Cassette box motor drive control output. Active "H". |
| 6 | O・OPEN1 | O | |
| 7 | O・CLOSE2 | O | DECK 2 Cassette box motor drive control output. Active "H". |
| 8 | O・OPEN2 | O | |
| 9 | O・BIAS | O | DECK 2 Recording bias oscillation output.<br>Goes "H" in the record and dubbing modes. |
| 10 | I・CST1 | I | DECK 1 Cassette tape detection switching input. Goes "L" switch on. |
| 11 | I・FR1 | I | DECK 1 FF and FWD detection switching input. Goes "L" FF or RWD switch on. |
| 12 | I・PLAY1 | I | DECK 1 PLAY detection switching input. Goes "L" PLAY switch on. |
| 13 | I・REA2 | I | DECK 2 Side A's accidental erasure prevention switch input.<br>Goes "L" when recording is possible. |
| 14 | I・REB2 | I | DECK 2 Side B's accidental erasure prevention switch input.<br>Goes "L" when recording is possible. |
| 15 | I・CST2 | I | DECK 2 Cassette tape detection switching input. Goes "L" switch on. |
| 16 | I・FR2 | I | DECK 2 FF and RWD detection switching input. Goes "L" FF or RWD switch on. |
| 17 | I・PLAY2 | I | DECK 2 PLAY detection switching input. Goes "L" PLAY switch on. |
| 18 | I・AUTO1 | I | DECK 1 Reel disk pulse input. |
| 19 | I・AUTO2 | I | DECK 2 Reel disk pulse input. |
| 20 | O・$\overline{\text{SOL・PLAY2}}$ | O | DECK 2 PLAY solenoid drive output. Active "L". |
| 21 | O・$\overline{\text{SOL・FR2}}$ | O | DECK 2 FF and RWD solenoid drive output. Active "L". |
| 22 | O・$\overline{\text{SOL・PLAY1}}$ | O | DECK 1 PLAY solenoid drive output. Active "L". |
| 23 | O・$\overline{\text{SOL・FR1}}$ | O | DECK 1 FF and RWD solenoid drive output. Active "L". |
| 24 | O・$\overline{\text{MOTOR}}$ | O | DECK 1/2 Main motor control output. Goes "L" in the STOP mode. |
| 25 | O・HSP1 | O | DECK 1 High speed control output. Goes "H" in the high speed dubbing mode. |
| 26 | O・HSP2 | O | DECK 2 High speed control output.<br>Goes "H" in the high speed dubbing mode. (Tape deck and CD) |
| 27 | I・POWER OFF | I | Power off signal input. Goes "L" when off. |
| 28 | I/O $\overline{\text{SERIAL}}$ | I/O | CD and amplifier serial data input and output. |
| 29 | I・REMOTE | I | Remote control serial data input. |
| 30 | TEST | － | MPU test pin to be connected to VSS. |
| 31 | VSS | － | MPU I/O and power supply common pin. |
| 32 | OSC1 | － | Pins to generate a 4MHz clock signal. |
| 33 | OSC2 | － | |
| 34 | $\overline{\text{RESET}}$ | I | MPU reset input. Goes "L" input resets the MPU. |
| 35 | O・PB2 | O | DECK 1/2 PB output level control pin. Goes "H" in the DECK 2 PB. |
| 36 | O・PLAY | O | CUE/REVIEW muting and MS sensitivity switching output. Goes "H" PB. |
| 37 | I・MS | I | MS signal input. Active "H". |
| 38 | O・RMT | O | Record muting output.<br>Goes "H" in the REC mute, recording I/O and REC pause. |
| 39 | O・EXT・REC | O | DECK 2 Recording switching output. Goes "H" DECK 1 PB and DECK 2 REC. |
| 40 | O・INT・REC | O | DECK 2 Recording switching output.<br>Goes "H" in the record and dubbing modes. Goes "L" in the O・EXT・REC "H". |
| 41 | O・$\overline{\text{DOLBY C}}$ | O | Dolby NR B/C switching output. Goes "H" Dolby C. |
| 42 | O・$\overline{\text{DOLBY ON}}$ | － | Dolby NR ON/OFF switching output. Goes "H" Dolby on. |
| 43 | O・$\overline{\text{REC}}$ | O | Dolby encode/decode switching output. Goes "H" REC, "L" dubbing. |
| 44 | O・LMT | O | Record and playback muting output. Active "H". |



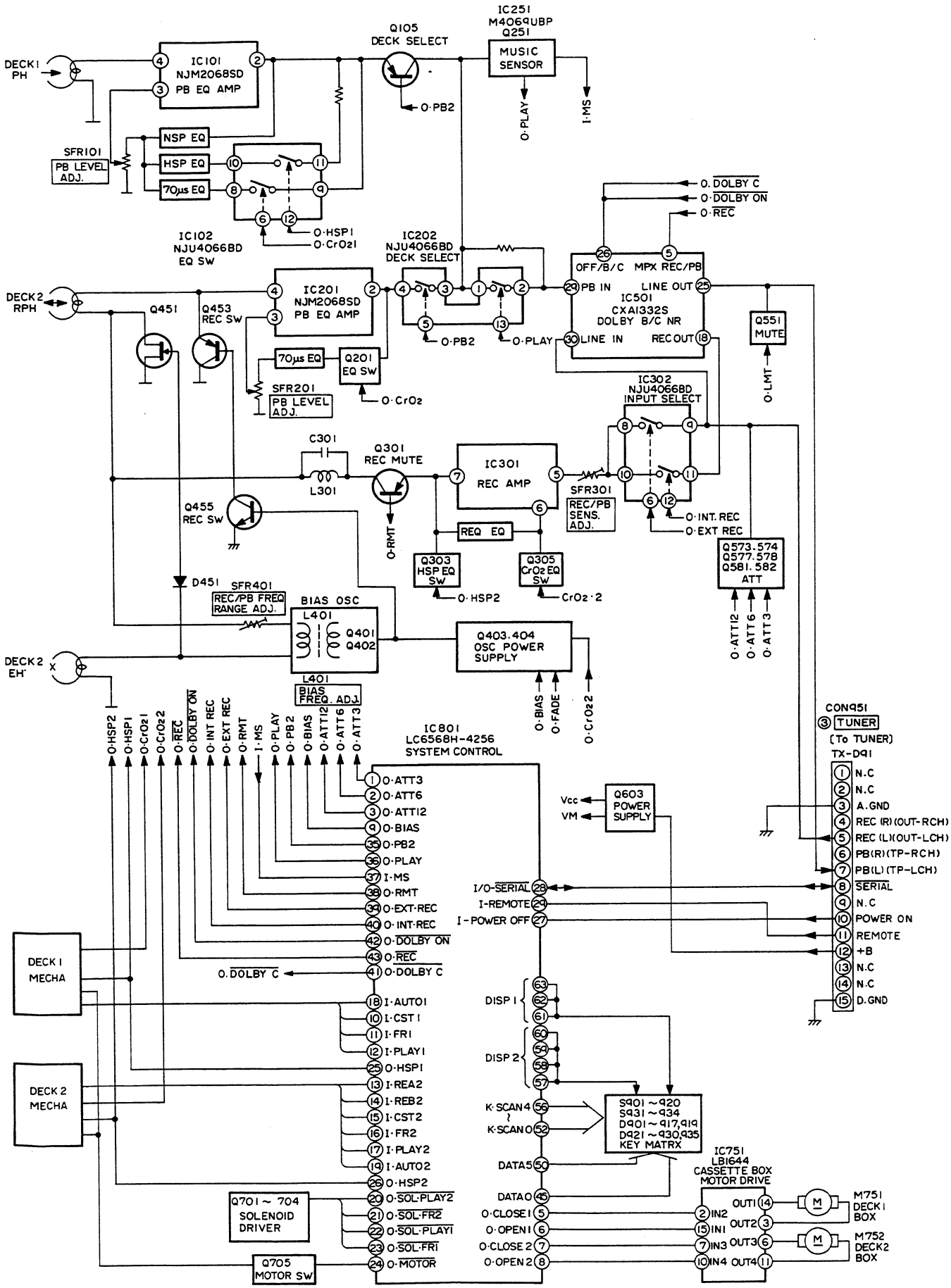
| Pin No. | Pin Name | I/O | Description | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | KEY DATA IN | | | | | | |
| | | | KSCAN0 is "H" | KSCAN1 is "H" | KSCAN2 is "H" | KSCAN3 is "H" | KSCAN4 is "H" | DISP1 lights at "H" | DISP2 lights at "H" |
| 45 | DATA0 | I | OPEN/CLOSE 2 KEY IN | REC2 KEY IN | N・DUBB KEY IN | BOX OPEN 2 KEY IN | CONT PLAY BLANK SKIP SW IN | N・DUBB lights | F・PLAY2 lights |
| 46 | DATA1 | I | OPEN/CLOSE 1 KEY IN | PAUSE2 KEY IN | H・DUBB KEY IN | BOX CLOSE 2 KEY IN | ⇄ SW IN | H・DUBB lights | R・PLAY2 lights |
| 47 | DATA2 | I | RWD1 KEY IN | RWD2 KEY IN | CD・REC KEY IN | BOX OPEN 1 KEY IN | TIMER PLAY SW IN | CD・REC lights | PAUSE2 lights |
| 48 | DATA3 | I | PLAY1 KEY IN | PLAY2 KEY IN | CROSS FADE KEY IN | BOX CLOSE 1 KEY IN | TIMER REC SW IN | CROSS FADE lights | REC2 lights |
| 49 | DATA4 | I | STOP1 KEY IN | STOP2 KEY IN | CD・HSP・REC KEY IN | | DOLBY B SW IN | CD・HSP・ REC lights | F・PLAY1 lights |
| 50 | DATA5 | I | FF1 KEY IN | FF2 KEY IN | | | | | R・PLAY1 lights |
| 51 | VP | － | GND. | | | | | | |
| 52 | K・SCAN0 | O | KEY SCAN outputs for DATA 0～DATA 5. These pins output "H" when reset. | | | | | | |
| 53 | K・SCAN1 | O | | | | | | | |
| 54 | K・SCAN2 | O | | | | | | | |
| 55 | K・SCAN3 | O | | | | | | | |
| 56 | K・SCAN4 | O | | | | | | | |
| 57 | DISP2 | O | DISP 2 INDI. output pin. | | | | | | |
| 58 | DISP2 | O | | | | | | | |
| 59 | DISP2 | O | | | | | | | |
| 60 | DISP2 | O | | | | | | | |
| 61 | DISP1 | O | DISP 1 INDI. output pin. | | | | | | |
| 62 | DISP1 | O | | | | | | | |
| 63 | DISP1 | O | | | | | | | |
| 64 | VDD | － | Power supply pin. (+5V) | | | | | | |

## IC BLOCK DIAGRAM (FX－W91／FX－W919)

### IC,CXA1332

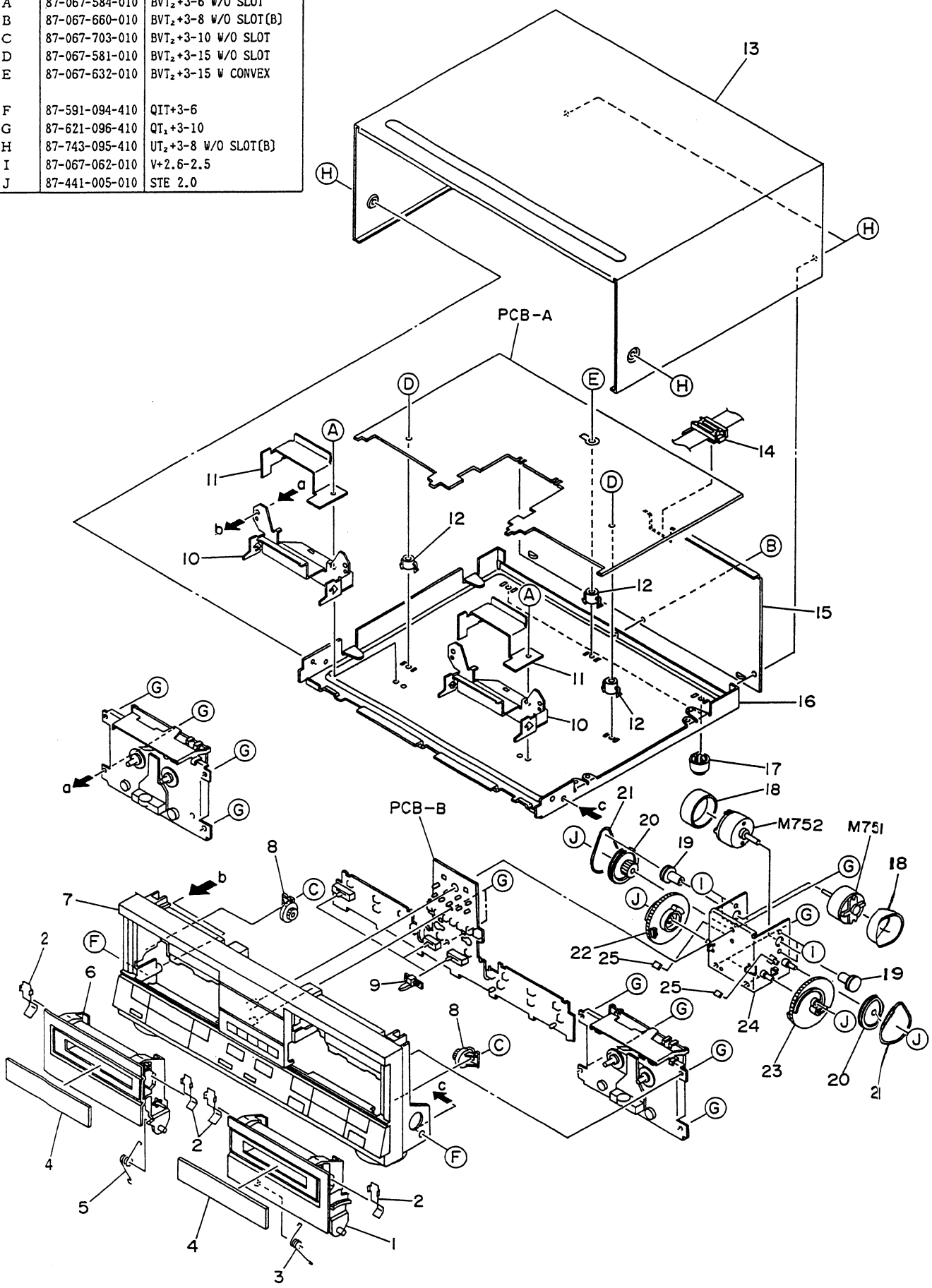


# BLOCK DIAGRAM (FX – W91/W919)



# EXPLODED VIEW – 1 (FX – W91/W919)

| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| A | 87-067-584-010 | $BVT_2$+3-6 W/O SLOT |
| B | 87-067-660-010 | $BVT_2$+3-8 W/O SLOT(B) |
| C | 87-067-703-010 | $BVT_2$+3-10 W/O SLOT |
| D | 87-067-581-010 | $BVT_2$+3-15 W/O SLOT |
| E | 87-067-632-010 | $BVT_2$+3-15 W CONVEX |
| F | 87-591-094-410 | QIT+3-6 |
| G | 87-621-096-410 | $QT_1$+3-10 |
| H | 87-743-095-410 | $UT_2$+3-8 W/O SLOT(B) |
| I | 87-067-062-010 | V+2.6-2.5 |
| J | 87-441-005-010 | STE 2.0 |

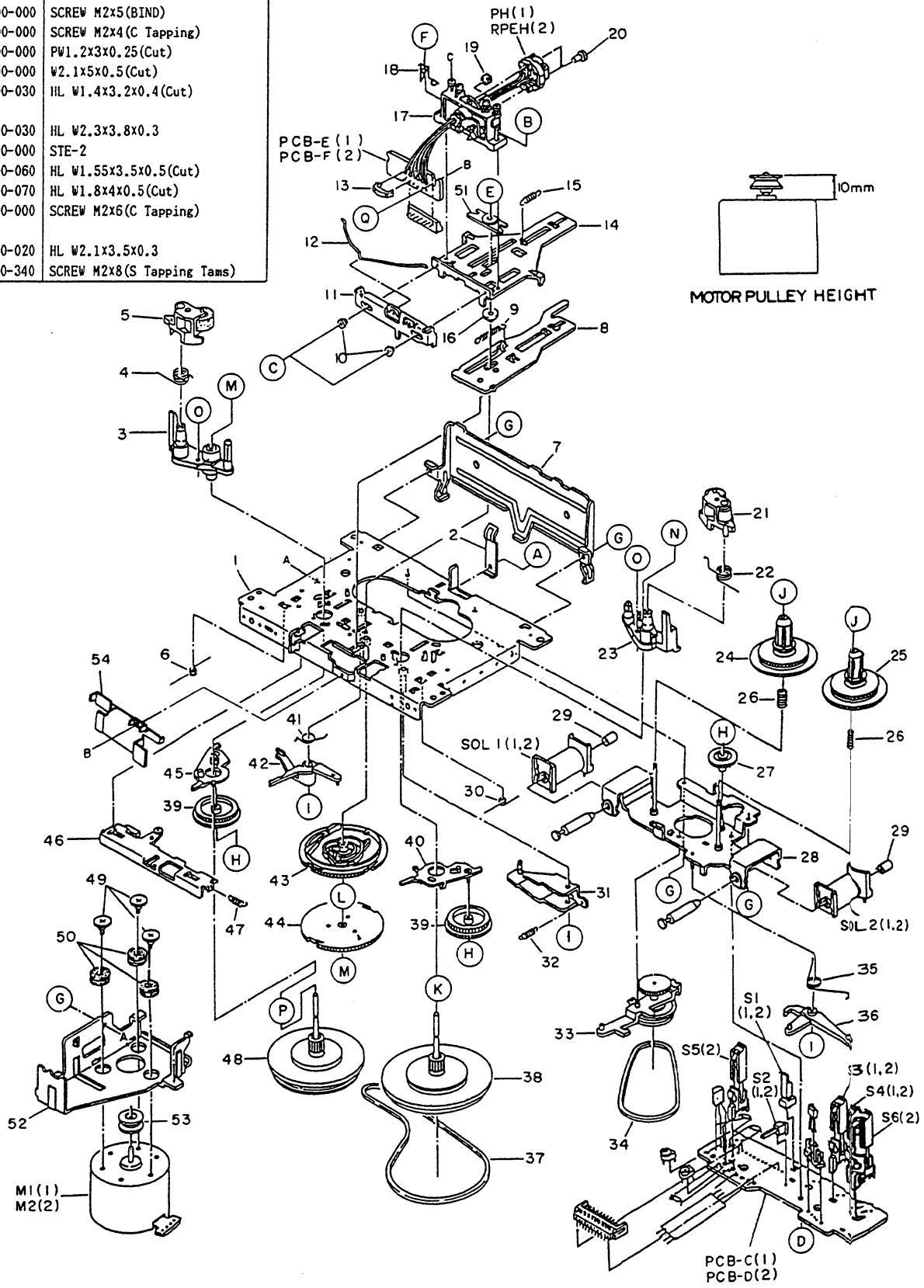


# MECHANICAL PARTS LIST (FX – W91/FX – W919)

| PART NO. CHANGED TO | REF. NO. | PART NO. | DESCRIPTION | COMMON MODEL | Q'TY |
|---|---|---|---|---|---|
| | 1-1 | ★89-VW5-004-219 | BOX,CASSETTE 2 | * | 1 |
| | 1-2 | ★82-202-217-110 | P-SPRING,CASSETTE HOLDER | | 4 |
| | 1-3 | ★89-VW5-203-019 | T-SPRING,EJECT 2 | * | 1 |
| | 1-4 | ★89-VW5-016-019 | WINDOW 1 | * | 2 |
| | 1-5 | ★89-VW5-202-010 | T-SPRING,EJECT 1 | * | 1 |
| | 1-6 | ★89-VW5-003-219 | BOX,CASSETTE 1 | * | 1 |
| | 1-7 | ★09-047-559-010 | CABINET FRONT ASSY(W919Y,YJ) | * | 1 |
| | 1-7 | ★09-047-563-010 | CABINET FRONT ASSY(W91YK) | * | 1 |
| | 1-7 | ★09-047-564-010 | CABINET FRONT ASSY(W91YU) | * | 1 |
| | 1-8 | ★87-063-144-010 | OIL-DUMPER 37 | | 2 |
| | 1-9 | ★89-VW5-011-019 | KNOB,SLIDE | * | 3 |
| | 1-10 | ★89-VW5-201-010 | HOLDER,MECHANISM | * | 2 |
| | 1-11 | ★89-VW5-214-019 | SHIELD PLATE,DECK | * | 2 |
| | 1-12 | ★81-664-202-010 | HOLDER,P.C.B | | 3 |
| | 1-13 | ★89-VW5-018-010 | CABINET,STEEL | * | 1 |
| | 1-14 | ★89-VT5-202-010 | BUSHING,CORD | | 1 |
| | 1-15 | ★89-VW5-023-010 | PANEL,REAR(W919Y) | * | 1 |
| | 1-15 | ★89-VW5-029-010 | PANEL,REAR(W919YJ) | * | 1 |
| | 1-15 | ★89-VW5-024-010 | PANEL,REAR(W91YK) | * | 1 |
| | 1-15 | ★89-VW5-028-010 | PANEL,REAR(W919YU) | * | 1 |
| | 1-16 | --- | CHASSIS,AMP | | 1 |
| | 1-17 | ★87-085-213-019 | FOOT,H12.5 | | 2 |
| | 1-18 | ★82-110-647-010 | SHIELD,PLATE M | | 2 |
| | 1-19 | ★89-VW5-206-019 | PULLEY,MOTOR | * | 2 |
| | 1-20 | ★89-VW5-204-119 | PULLEY,LOADING | * | 2 |
| | 1-21 | ★89-VW5-216-110 | BELT,SQ1.5 | * | 2 |
| | 1-22 | ★89-VW5-211-019 | GEAR,CAM 1 | * | 1 |
| | 1-23 | ★89-VW5-205-019 | GEAR,CAM 2 | * | 1 |
| | 1-24 | ★89-VW5-207-110 | LOADING HOLDER ASSY | * | 1 |
| | 1-25 | ★82-679-233-010 | G-CUSHION | | 2 |

# EXPLODED VIEW – 2 (FX – W91／W919)

| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| A | S9-178-000-000 | SPECIAL SCREW M2x3(C Tapping) |
| B | S9-078-000-000 | SCREW M2x5(Tams) |
| C | S9-547-000-000 | SCREW M1.7x3(Camera) |
| D | S9-999-200-200 | SCREW M2x5(S Tapping Tams) |
| E | S9-999-180-160 | SPECIAL SCREW M2x5 |
| F | S9-117-000-000 | SCREW M2x5(BIND) |
| G | S9-180-000-000 | SCREW M2x4(C Tapping) |
| H | S9-421-000-000 | PW1.2x3x0.25(Cut) |
| I | S9-876-000-000 | W2.1x5x0.5(Cut) |
| J | S9-999-700-030 | HL W1.4x3.2x0.4(Cut) |
| K | S9-999-600-030 | HL W2.3x3.8x0.3 |
| L | S9-502-000-000 | STE-2 |
| M | S9-999-700-060 | HL W1.55x3.5x0.5(Cut) |
| N | S9-999-700-070 | HL W1.8x4x0.5(Cut) |
| O | S9-182-000-000 | SCREW M2x6(C Tapping) |
| P | S9-999-600-020 | HL W2.1x3.5x0.3 |
| Q | S9-999-200-340 | SCREW M2x8(S Tapping Tams) |



| PART NO. CHANGED TO | REF. NO. | PART NO. | DESCRIPTION | COMMON MODEL | Q, TY |
|---|---|---|---|---|---|
| | 2-1 | --- | CHASSIS ASSY | | 1 |
| | 2-2 | ★S1-829-100-010 | SPRING,PACK | | 1 |
| | 2-3 | ★S1-880-090-090 | FL METAL R ASSY | | 1 |
| | 2-4 | ★S1-880-040-040 | P-SPRING,ARM R | | 1 |
| | 2-5 | S1-880-043-020 | PINCH ROLLER ARM R ASSY | | 1 |
| | 2-6 | ★S1-880-050-190 | SPRING,TRIGGER ARM R | | 1 |
| | 2-7 | ★S1-880-530-020 | PROTECTOR,SW | | 1 |
| | 2-8 | ★S1-880-025-010 | HEAD PANEL B ASSY | | 1 |
| | 2-9 | ★S1-880-020-050 | SPRING,PANEL | | 1 |
| | 2-10 | ★S1-865-020-280 | COLLAR,CHP LEVER | | 2 |
| | 2-11 | ★S1-880-020-060 | LEVER,CHP | | 1 |
| | 2-12 | ★S1-880-040-050 | SPRING,PINCH ROLLER | | 1 |
| | 2-13 | --- | CLUMP,WIRE | | 1 |
| | 2-14 | ★S1-880-020-010 | PANEL,HEAD | | 1 |
| | 2-15 | ★S1-880-020-040 | SPRING,RC | | 1 |
| | 2-16 | ★S1-880-020-190 | COLLAR,PANEL | | 1 |
| | 2-17 | ★S1-865-023-060 | HEAD BASE ASSY | | 1 |
| | 2-18 | ★S1-865-020-600 | SPRING,CLUMP | | 1 |
| | 2-19 | ★S1-865-090-610 | SPACER | | 1 |
| | 2-20 | ★S9-999-180-170 | SCREW,HEAD COLLAR | | 2 |
| | 2-21 | S1-880-043-010 | PINCH ROLLER ARM F ASSY | | 1 |
| | 2-22 | ★S1-880-040-030 | P-SPRING,ARM F | | 1 |
| | 2-23 | ★S1-880-090-080 | FL METAL ASSY | | 1 |
| | 2-24 | S1-880-053-140 | T REEL R ASSY | | 1 |
| | 2-25 | S1-880-053-130 | T REEL F ASSY | | 1 |
| | 2-26 | ★S1-880-050-220 | SPRING,BT R | | 2 |
| | 2-27 | ★S1-880-050-080 | GEAR,FF | | 1 |
| | 2-28 | ★S1-880-055-010 | REEL BASE ASSY | | 1 |
| | 2-29 | ★S1-880-210-060 | HOLDER,PLUNGER | | 2 |
| | 2-30 | ★S1-880-050-180 | SPRING,TRIGGER ARM F | | 1 |
| | 2-31 | ★S1-880-215-020 | P KICK LEVER ASSY | | 1 |
| | 2-32 | ★S1-880-210-110 | SPRING,PK LEVER | | 1 |
| | 2-33 | ★S1-880-073-020 | RF CLUTCH ASSY | | 1 |
| | 2-34 | S1-880-070-080 | BELT,RF | | 1 |
| | 2-35 | ★S1-880-050-170 | SPRING,FR ARM TRIGGER | | 1 |
| | 2-36 | ★S1-880-050-150 | ARM,RF TRIGGER | | 1 |
| | 2-37 | S1-880-090-380 | BELT,MAIN | | 1 |
| | 2-38 | S1-880-093-070 | FLYWHEEL F ASSY | | 1 |
| | 2-39 | ★S1-880-050-350 | GEAR,T | | 2 |
| | 2-40 | ★S1-880-055-020 | GEAR T ARM F ASSY | | 1 |
| | 2-41 | ★S1-880-010-060 | SPRING,M TRIGGER ARM | | 1 |
| | 2-42 | ★S1-880-210-030 | ARM,M TRIGGER | | 1 |
| | 2-43 | ★S1-880-210-150 | GEAR,M | | 1 |
| | 2-44 | ★S1-880-210-160 | GEAR,RF CAM | | 1 |
| | 2-45 | ★S1-880-055-030 | T GEAR ARM R ASSY | | 1 |
| | 2-46 | ★S1-880-215-010 | CH SLIDE LEVER ASSY | | 1 |
| | 2-47 | ★S1-880-210-080 | SPRING,CH SLIDE LEVER | | 1 |
| | 2-48 | S1-880-093-080 | FLYWHEEL R ASSY | | 1 |
| | 2-49 | ★S1-851-140-180 | SCREW,MOTOR COLLAR | | 3 |
| | 2-50 | ★S1-821-120-660 | RUBBER,MOTOR | | 3 |
| | 2-51 | ★S1-880-020-160 | PLATE,PANEL SPRING | | 1 |
| | 2-52 | ★S1-880-090-110 | BRACKET,MOTOR | | 1 |
| | 2-53 | ★S1-880-090-370 | PULLEY,MOTOR | | 1 |
| | 2-54 | ★S1-880-020-180 | PLATE,SHIELD | | 1 |

MODEL NO.

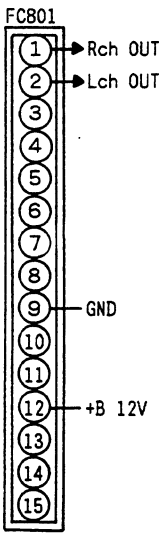
# TX – D91

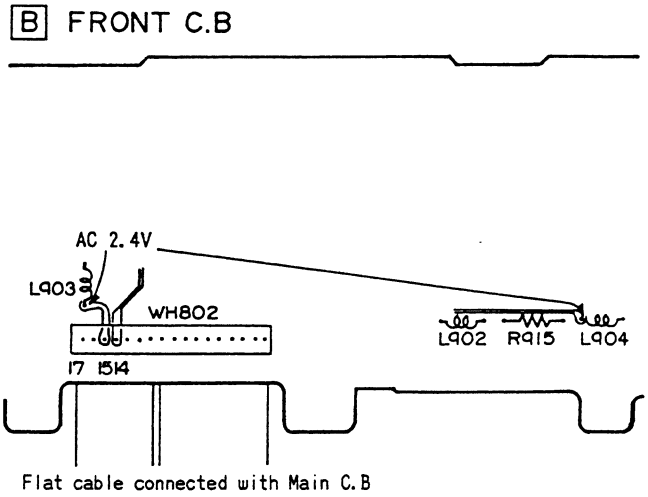
## CAUTIONS WHEN SERVICING (TX – D91)

Model TX-D91 does not have a power supply circuit. Power is supplied to it through a 15-pin flat cable and the signal inputs/outputs are also performed through this cable.
When servicing the TX-D91 connect it to the MX-D91M so that power is supplied to the TX-D91. If the MX-D91M is not available, follow the procedure below.

(When servicing the unassembled TX-D91)

① Supply the following voltages to each FC801 terminal from an external power supply.

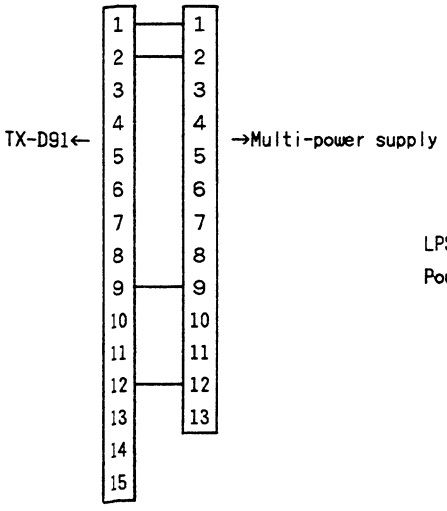


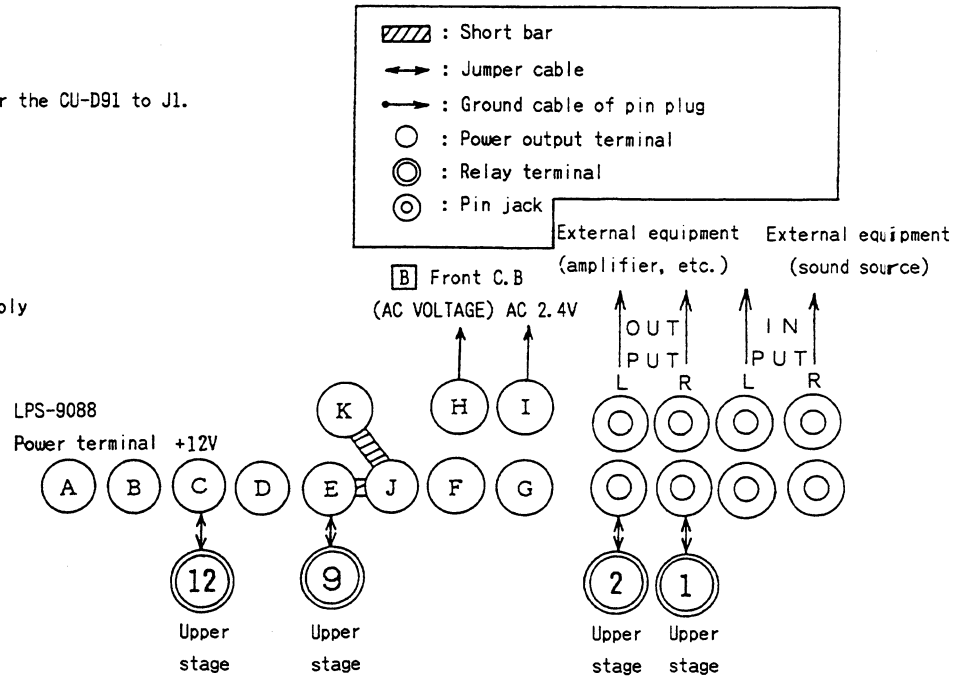

② Connection diagram when using multi power supply (LPS-9088).

1. Apply AC 2.4V to the section shown by arrows in the above diagram from a multi-power supply. (The display becomes dim because it is lower than the rated voltage.)
2. Turn the TX-D91 on using the SLEEP function since the POWER ON signal is not supplied.

Connect the multi-conversion harness for the CU-D91 to J1.




Connection diagram of multi-conversion harness



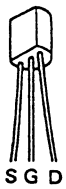
# ELECTRICAL MAIN PARTS LIST (TX – D91)

| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| | **=== IC ===** | |
| | 87-001-533-010 | IC,GP1U501X1(REMOTE SENSOR) |
| | 87-001-942-019 | IC,LA1265G |
| | 87-001-376-019 | IC,LC7218 |
| | 87-020-446-019 | IC,TA7343AP |
| | 87-001-727-010 | IC,UPD75206CW-115 |
| | **=== TRANSISTOR ===** | |
| | 89-501-615-019 | FET,2SK161GR |
| | 89-502-415-019 | FET,2SK241GR |
| | 89-502-464-019 | FET,2SK246Y |
| | 87-026-165-019 | FET,3SK73GR(Z) |
| | 89-110-155-019 | TRANSISTOR,2SA1015GR |
| | 89-318-154-019 | TRANSISTOR,2SC1815Y |
| | 89-318-155-019 | TRANSISTOR,2SC1815GR |
| | 89-319-233-019 | TRANSISTOR,2SC1923(O) |
| | 89-320-011-019 | TRANSISTOR,2SC2001K |
| | 87-026-214-019 | TRANSISTOR,DTA114YS |
| | 87-026-215-019 | TRANSISTOR,DTC114YS |
| | **=== DIODE ===** | |
| | 87-001-559-019 | DIODE,1SS131 |
| | 87-020-465-019 | DIODE,1SS133 |
| | 87-027-449-019 | ZENER,HZ15-3L |
| | 87-027-349-019 | ZENER,HZ6A1L |
| | 87-027-702-019 | ZENER,HZ6C2L |
| | **=== MAIN CIRCUIT BOARD SECTION ===** | |
| AT801 | ★81-631-646-019 | ANTENNA TERMINAL 2P PAL(ANTENNA) |
| C1 | ★87-018-103-019 | CAP,CERA U 8.2P-50 SL(E,K) |
| C2 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C3 | ★87-018-102-019 | CAP,CERA U 6.8P-50 SL(E,K) |
| C4 | ★87-018-102-019 | CAP,CERA U 6.8P-50 SL(E,K) |
| C5 | ★87-018-098-019 | CAP,CERA U 3.3P-50 SL(E,K) |
| C5 | ★87-018-097-019 | CAP,CERA U 2.2P-50 SL(Z) |
| C6 | ★87-018-100-019 | CAP,CERA U 4.7P-50 SL(E,K) |
| C6 | ★87-018-106-019 | CAP,CERA U 15P-50 SL(Z) |
| C7 | ★87-018-096-019 | CAP,CERA U 1P-50 SL |
| C8 | ★87-018-119-019 | CAP,CERA U 100P-50 B |
| C9 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C10 | ★87-018-116-019 | CAP,CERA U 56P-50 SL |
| C11 | ★87-018-107-019 | CAP,CERA U 18P-50 SL |
| C12 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C13 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C14 | ★87-010-401-019 | CAP,ELECT 1-50V SME |
| C16 | ★87-018-100-019 | CAP,CERA U 4.7P-50 SL(E,K) |
| C16 | ★87-018-106-019 | CAP,CERA U 15P-50 SL(Z) |
| C20 | ★87-018-100-019 | CAP,CERA U 4.7P-50 SL(Z) |
| C21 | ★87-018-105-019 | CAP,CERA U 12P-50 SL(Z) |
| C22 | ★87-018-134-019 | CAP,CERA U 0.01-16Y(Z) |
| C23 | ★87-018-105-019 | CAP,CERA U 12P-50 SL(Z) |
| C24 | ★87-018-105-019 | CAP,CERA U 12P-50 SL(Z) |
| C50 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C51 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C54 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C121 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C122 | ★87-010-374-019 | CAP,ELECT 47-10V |
| C123 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C201 | ★87-010-544-019 | CAP,ELECT 0.1-50V |
| C202 | ★87-014-049-019 | CAP,PP 470P-100 J |
| C205 | ★87-018-110-019 | CAP,CERA U 24P-50 SL |
| C206 | ★87-018-121-019 | CAP,CERA U 150P |
| C207 | ★87-014-050-019 | CAP,PP 510P-100J |
| C208 | ★87-018-134-019 | CAP,CERA U 0.01-16Y |
| C209 | ★87-010-405-019 | CAP,ELECT 10-50 SME |
| C301 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C302 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C303 | ★87-010-382-019 | CAP,ELECT 22-25V SME |
| C304 | ★87-018-125-019 | CAP,CERA U 330P-50 B |
| C305 | ★87-010-402-019 | CAP,ELECT 2.2-50V SME |
| C306 | ★87-010-402-019 | CAP,ELECT 2.2-50V SME |
| C307 | ★87-010-403-019 | CAP,ELECT 3.3-50V SME |
| C308 | ★87-010-405-019 | CAP,ELECT 10-50 SME |
| C309 | ★87-010-544-019 | CAP,ELECT 0.1-50V |
| C311 | ★87-010-404-019 | CAP,ELECT 4.7-50V SME |
| C313 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C314 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C316 | ★87-010-401-019 | CAP,ELECT 1-50V SME |
| C317 | ★87-010-401-019 | CAP,ELECT 1-50V SME |
| C318 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C319 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C320 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y(E,K) |
| C321 | ★87-010-402-089 | CAP,ELECT 2.2-50(Z) |
| C322 | ★87-010-402-089 | CAP,ELECT 2.2-50(Z) |
| C401 | ★87-010-401-019 | CAP,ELECT 1-50V SME |
| C402 | ★87-010-403-019 | CAP,ELECT 3.3-50V SME |
| C403 | ★87-010-248-019 | CAP,ELECT 220-10V SME |
| C404 | ★87-014-057-019 | CAP,PP 1000P-100 J |
| C405 | ★87-010-405-019 | CAP,ELECT 10-50 SME |
| C409 | ★87-010-402-019 | CAP,ELECT 2.2-50V SME |
| C410 | ★87-010-402-019 | CAP,ELECT 2.2-50V SME |
| C505 | ★87-010-402-019 | CAP,ELECT 2.2-50V SME |
| C506 | ★87-010-402-019 | CAP,ELECT 2.2-50V SME |
| C512 | ★87-010-401-019 | CAP,ELECT 1-50V SME |
| C602 | ★87-010-381-019 | CAP,ELECT 330-16V SME |
| C603 | ★87-010-263-019 | CAP,ELECT 100-10V |
| C604 | ★87-010-221-019 | CAP,ELECT 470-10V |
| C605 | ★87-010-405-019 | CAP,ELECT 10-50 SME |
| C606 | ★87-010-263-019 | CAP,ELECT 100-10V |
| C607 | ★87-010-247-019 | CAP,ELECT 100-50V SME |
| C701 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C702 | ★87-010-263-019 | CAP,ELECT 100-10V |
| C703 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C704 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C706 | ★87-018-106-019 | CAP,CERA U 15P-50 SL |
| C707 | ★87-010-101-019 | CAP,ELECT 220-16V SME |
| C708 | ★87-010-545-019 | CAP,ELECT 0.22-50V SME |
| C709 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C710 | ★87-010-404-019 | CAP,ELECT 4.7-50V SME |
| C712 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C713 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C715 | ★87-010-401-089 | CAP,ELECT 1-50V SME |
| C717 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y(E,K) |
| C718 | ★87-010-101-019 | CAP,ELECT 220-16V SME |
| C801 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C806 | ★87-018-134-089 | CAP,CERA 0.01-16 Y |
| C811 | ★87-018-134-019 | CAP,CERA U 0.01-16 Y(Z) |
| C812 | ★87-018-119-089 | CAP,CERA U 100P-50B |
| CF121 | ★87-008-261-019 | FILTER,SFE 10.7MA5-A(E,K) |
| CF121 | ★82-799-621-019 | FILTER,MS2-A(Z) |
| CF122 | ★87-008-261-019 | FILTER,SFE 10.7MA5-A |
| CF123 | ★87-008-261-019 | FILTER,SFE10.7 MA-5-A(Z) |
| CF301 | ★82-794-670-019 | FILTER,BFU 450C4N |
| CF801 | 89-VT5-618-110 | CORD,FG 15P(AMP) |
| CON801 | 87-009-065-019 | CONNECTOR 15P FG(DECK) |
| CON803 | 87-754-629-019 | CONNECTOR XH M 2P(AM LOOP)(E,K) |
| D1 | 87-027-900-019 | VARI-CAP,1SV147 |

| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| D2 | 87-027-900-019 | VARI-CAP,1SV147 |
| D3 | 87-027-900-019 | VARI-CAP,1SV147 |
| D21 | 87-027-900-019 | VARI-CAP,1SV147(Z) |
| D201 | 81-754-634-019 | VARI-CAP,KV1260 |
| FIL1 | 87-030-105-010 | FILTER,BPMB6A(Z) |
| L1 | *87-006-198-019 | COIL,ANT2-3/4 TS L5 |
| L2 | *87-006-199-019 | COIL,ANT3/4 T L5 |
| L3 | *87-006-200-019 | COIL,RF FM 3-1/2 T L5 |
| L4 | *87-006-201-019 | COIL,RF FM 3-1/2 T L5 |
| L5 | *82-794-683-019 | IFT,FM 6T |
| L6 | *87-007-259-019 | COIL,FM OSC (7K)N |
| L7 | *87-003-098-019 | COIL,2.2UH |
| L21 | *87-006-202-019 | COIL,RF FM4TSR,L5(Z) |
| L201 | *87-006-190-019 | COIL,MW ANT(3B) |
| L202 | *87-006-177-019 | COIL,LW ANT |
| L203 | *82-794-687-019 | COIL,MW OSC |
| L204 | *82-794-688-019 | COIL,LW OSC |
| L301 | *81-631-611-019 | COIL,QUAD (SINGLE) |
| L302 | 87-008-452-019 | FILTER,CERAMIC CFAZ-450 |
| L303 | *87-003-098-019 | COIL,2.2UH |
| L321 | *82-794-697-019 | FILTER,ANTI BIRDIE(Z) |
| L501 | *87-008-253-019 | FILTER,LPF |
| L601 | *87-003-136-019 | COIL,100UH |
| L701 | *87-003-098-019 | COIL,2.2UH |
| PT601 | 89-VT5-624-019 | POWER TRANSFORMER FL |
| SFR301 | *87-024-174-019 | SFR,33K |
| SFR401 | *87-024-171-019 | SFR,4.7K |
| TC1 | *87-011-219-019 | CAP,TRIMMER 10P VCT |
| TC2 | *87-011-219-019 | CAP,TRIMMER 10P VCT |
| TC21 | *87-011-219-019 | CAP,TRIMMER 10P(Z) |
| TC211 | *87-011-220-019 | CAP,TRIMMER 20P |
| TC212 | *87-011-221-019 | CAP,TRIMMER 30P |
| TC701 | *87-011-221-019 | CAP,TRIMMER 30P VC51 |
| X701 | *87-030-163-019 | RESONATOR,CRYSTAL 7.2MHZ(NDK) |
| ⚌ FRONT CIRCUIT BOARD SECTION ⚌ | | |
| C810 | *87-018-119-019 | CAP,CERA U 100P-50 B |
| C901 | *87-018-131-019 | CAP,CERA U 1000P-50 B |
| C902 | *87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C903 | *87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C905 | *87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C906 | *87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C907 | *87-018-131-019 | CAP,CERA U 1000P-50 B |
| C908 | *87-010-405-019 | CAP,ELECT 10-50 SME |
| C909 | *87-018-134-019 | CAP,CERA U 0.01-16 Y |
| C910 | *87-010-252-019 | CAP,ELECT 1000-6.3V |
| C911 | *87-010-071-019 | CAP,ELECT 1-50V |
| C912 | *87-010-071-019 | CAP,ELECT 1-50V |
| C913 | *87-010-374-019 | CAP,ELECT 47-10V |
| C914 | *87-010-401-019 | CAP,ELECT 1-50V SME |
| C915 | *87-010-415-089 | CAP,ELECT 10-50 SRE |
| CF901 | *87-008-394-019 | FILTER,CERAMIC CST 4.19 MGW |
| FL901 | 81-690-620-010 | FL,9BT-44GK(DISPLAY) |
| L901 | *87-003-102-019 | COIL,10UH |
| L902 | *87-003-102-019 | COIL,10UH |
| L905 | *87-003-102-019 | COIL,10UH |
| L906 | *87-003-102-019 | COIL,10UH |
| SW1 | 87-036-142-019 | TACT SW(STATION PRESET1) |
| SW2 | 87-036-142-019 | TACT SW(STATION PRESET2) |
| SW3 | 87-036-142-019 | TACT SW(STATION PRESET3) |
| SW4 | 87-036-142-019 | TACT SW(STATION PRESET4) |
| SW5 | 87-036-142-019 | TACT SW(STATION PRESET5) |
| SW6 | 87-036-142-019 | TACT SW(STATION PRESET6) |
| SW7 | 87-036-142-019 | TACT SW(STATION PRESET7) |

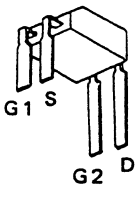
| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| SW8 | 87-036-142-019 | TACT SW(STATION PRESET8) |
| SW9 | 87-036-142-019 | TACT SW(STATION PRESET9) |
| SW10 | 87-036-142-019 | TACT SW(STATION PRESET10) |
| SW11 | 87-036-142-019 | TACT SW(BAND) |
| SW12 | 87-036-142-019 | TACT SW(TUNING/TIMER UP) |
| SW13 | 87-036-142-019 | TACT SW(TUNING/TIMER DOWN) |
| SW14 | 87-036-142-019 | TACT SW(SET/MEMO) |
| SW15 | 87-036-142-019 | TACT SW(MODE) |
| SW16 | 87-036-142-019 | TACT SW(DISPLAY) |
| SW17 | 87-036-142-019 | TACT SW(SLEEP) |
| SW18 | 87-036-142-019 | TACT SW(TIMER/STANDBY) |

## TRANSISTOR ILLUSTRATION
## (MX – D91M,FX – W91/W919,TX – D91)




**2SK246**

**2SK161**
**2SK241**

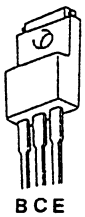



**3SK73**

**DTA114**
**DTA144**
**DTC114**
**2SD2144**

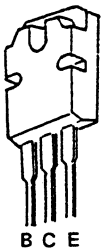
**RN2202**
**RN2204**

**2SC1923**
**2SD655**




**2SB1370**

**2SA933**
**2SA952**
**2SA1015**
**2SA1296**
**2SA1318**
**2SC945**
**2SC1815**
**2SC1740**
**2SC2001**
**ESA1266**

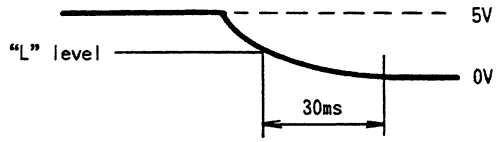



**2SA1263**

**2SB1329**

# IC DESCRIPTION (TX－D91)

## IC,UPD75206 CW－115

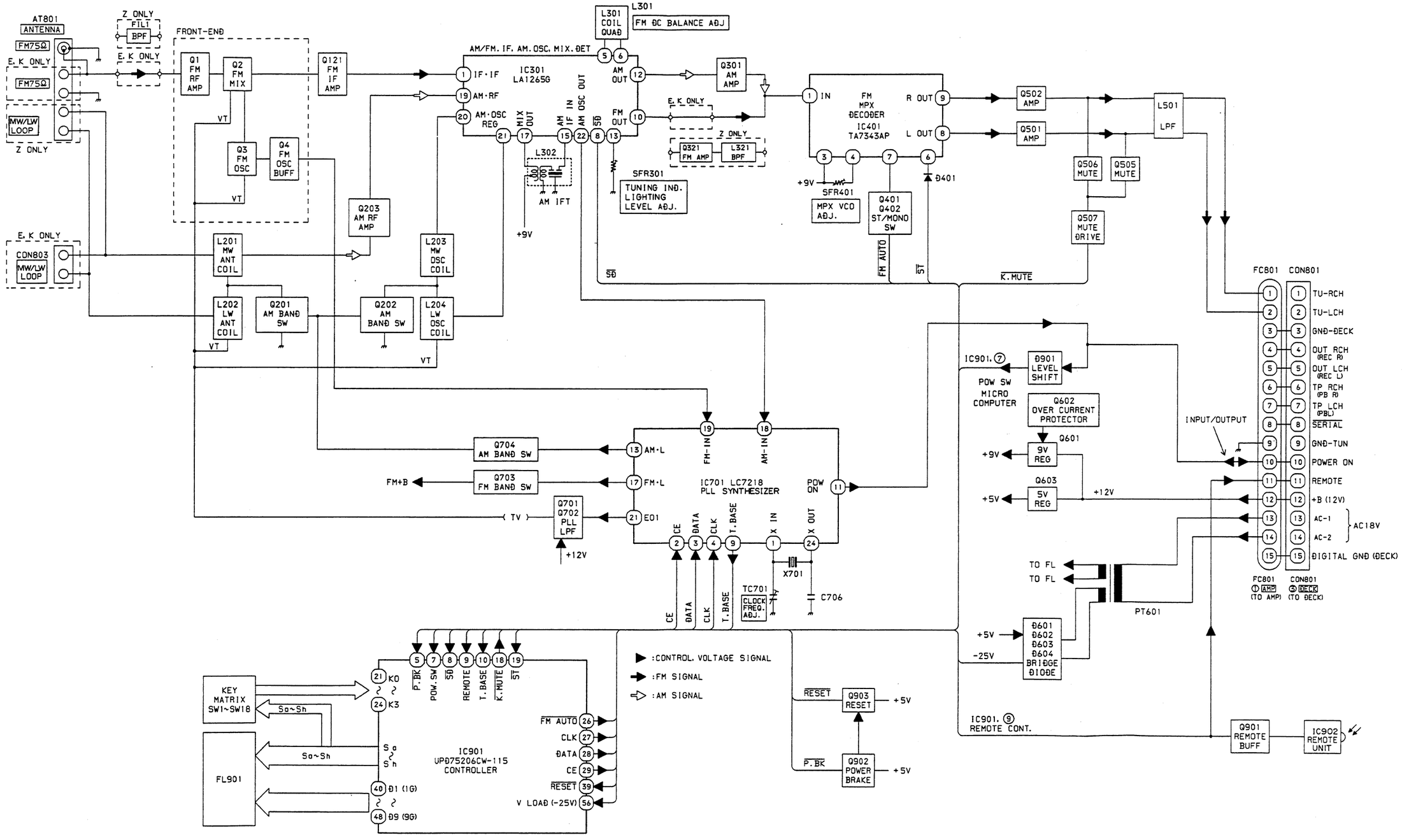
| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1<br>～<br>4 | Se<br>～<br>Sh | O | Segment signal outputs and key scan signal outputs. Active "H". |
| 5 | $\overline{\text{PBK}}$<br>(Power Brake) | I | Input to detect a power failure. When this pin continues to be "L" for 30ms at more, a power failure is detected (the unit enters the power backup state).<br>  |
| 6<br>16<br>17 | TEST 1<br>TEST 2<br>TEST 3 | I | Test mode setting inputs. |
| 7 | POW SW | I | Power control input. The power is turned on and off alternately (the rise is detected) every time the power switch is pressed.<br>When the power is turned on, PLL (LC7218), Pin 11 POW goes "H". |
| 8 | $\overline{\text{SD}}$ | I | Input to stop auto scanning. Active "L".<br>• This input is not accepted during power off.<br>• This input lights "TUNE".<br>• SD is detected every 5ms during auto scanning, and when 4 "L" pulses are counted, auto scanning is stopped.<br>• SD is not detected during manual tuning. |
| 9 | REMOCON | I | Remote control serial data input. Active "H" (the rise is detected) |
| 10 | T. BASE | I | Receives 8Hz from the PLL (LC7218) as a time base clock signal. |
| 11<br>～<br>15 | $\overline{\text{SIGNAL 1}}$<br>～<br>$\overline{\text{SIGNAL 5}}$ | － | Ground. |
| 18 | $\overline{\text{K. MUTE}}$ | O | Outputs a muting signal when any key is operated. Active "L". |
| 19 | $\overline{\text{ST}}$ | I | Input to light the STEREO indicator.<br>• This input is not accepted when power is off. |
| 20 | —— | － | Unused. |
| 21<br>～<br>24 | K0<br>～<br>K3 | I | Auto scanning inputs. |
| 25 | —— | － | Unused. |
| 26 | $\overline{\text{FM AUTO}}$ | O | Outputs a signal depending on the mode selected by the MODE key during FM reception. Active "L" when the AUTO indicator lights.<br>• IF the AUTO indicator changes when a frequency is selected in timer programming, the output is the channel being received. |
| 27<br>28<br>29 | CLK<br>DATA<br>CE | O | Output ports to transfer serial data to the PLL (LC7218). Active "H". |
| 30<br>31 | $X_1$<br>$X_2$ | － | A ceramic oscillator which generates a main system clock signal (4.19MHz). |
| 32 | VSS | － | Ground. |
| 33 | $XT_1$ | － | Unused (connected to ground). |
| 34 | $XT_2$ | － | Unused. |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 35<br>36<br>37 | $B_0$<br>$B_1$<br>$B_2$ | I | Inputs to select the frequency range, etc. accordng to the destination to which the unit is to be shipped, using 3 bits.<br>H: HIGH (pull-up)<br>L: LOW (pull-down)<br>*: Changed by a switch |
| 38 | 10/12 MEMORY | I | Input to select the number of preset memories 10 or 12.<br>"L" input assigns 10 memories and "H" input assigns 12 memories. |
| 39 | $\overline{\text{RESET}}$ | I | System reset input. |
| 40<br>~<br>48 | $D_1$<br>~<br>$D_9$ | O | Digit signal outputs. Active "H". |
| 49 | —— | — | Unused. |
| 50 | TIMER ON | — | Unused. |
| 51 | —— | — | Unused. |
| 52 | START/CUT | — | Unused. |
| 53 | —— | — | Unused. |
| 54 | —— | — | Unused. |
| 55 | —— | — | Unused. |
| 56 | VLOAD | I | Power supply pin of the output buffer in the FL display. |
| 57 | VPRE | I | For connection of pull-down resistor of the FL display. |
| 58<br>59<br>60<br>61<br>62<br>63 | Sj<br>Si<br>Sd<br>Sc<br>Sb<br>Sa | O | Sj, Si : Unused.<br>Segment signal outputs and key scan signal outputs. Active "H". |
| 64 | VDD | — | Power supply pin. 5V±10% |

## IC,LC7218

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1<br>24 | X IN<br>X OUT | — | Clock oscillator connection pins. A 7.2MHz crystal oscillator is connected. |
| 2<br>3<br>4 | CE<br>DATA<br>CLK | I | When a key is operated, signals are transferred from the CPU. Active "H". |
| 5<br>~<br>8 | —— | — | Unused. |
| 9 | T. BASE | O | Outputs an 8Hz signal. Transfers it to the CPU as a time base clock signal. |
| 10 | —— | — | Unused. |
| 11 | POW ON | O | Power control output. Outputs "H" during power on. |
| 12 | —— | — | Unused. |
| 13 | MW(AM)-L | O | Outputs "L" when an MW(AM) broadcast is received. Unused. |
| 14 | —— | — | Unused. |
| 15<br>16 | —— | — | Unused. |
| 17 | FM-L | O | Outputs "L" when an FM broadcast is received. |
| 18 | AM IN | I | AM local oscillation input. |
| 19 | FM IN | I | FM local oscillation input. |
| 20 | VDD | — | Power supply pin. 5V±10% |
| 21 | $EO_1$ | O | PLL error output. |
| 22 | $EO_2$ | — | Unused. |
| 23 | VSS | — | Ground pin. |

# BLOCK DIAGRAM (TX – D91)



A MAIN C.B

AT801 ANTENNA

FM 75Ω

FM 75Ω

CON805 MW/LW LOOP ANT

CON803

FC801 ① AMP (TO AMP)

FC801

CON801 ⑮ DECK (TO DECK)

15 (WHT)

CON801

PT601

GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT.CAP. ARE DESIGNED AS NEGATIVE POLE.

(プリント基板内のケミコンの極性表示は⊖表示です。)

CON802

TO B FRONT C.B HW802

PRESET STATION

SW5 5 SW4 4 SW3 3 SW2 2 SW1 1

SW10 10 SW9 9 SW8 8 SW7 7 SW6 6

B FRONT C.B

SW14 SET/MEMO

SW15 MODE

SW16 DISPLAY

SW12 UP

SW13 DOWN

SW11 BAND

TUNING/TIMER

IC902 REMOTE SENSOR

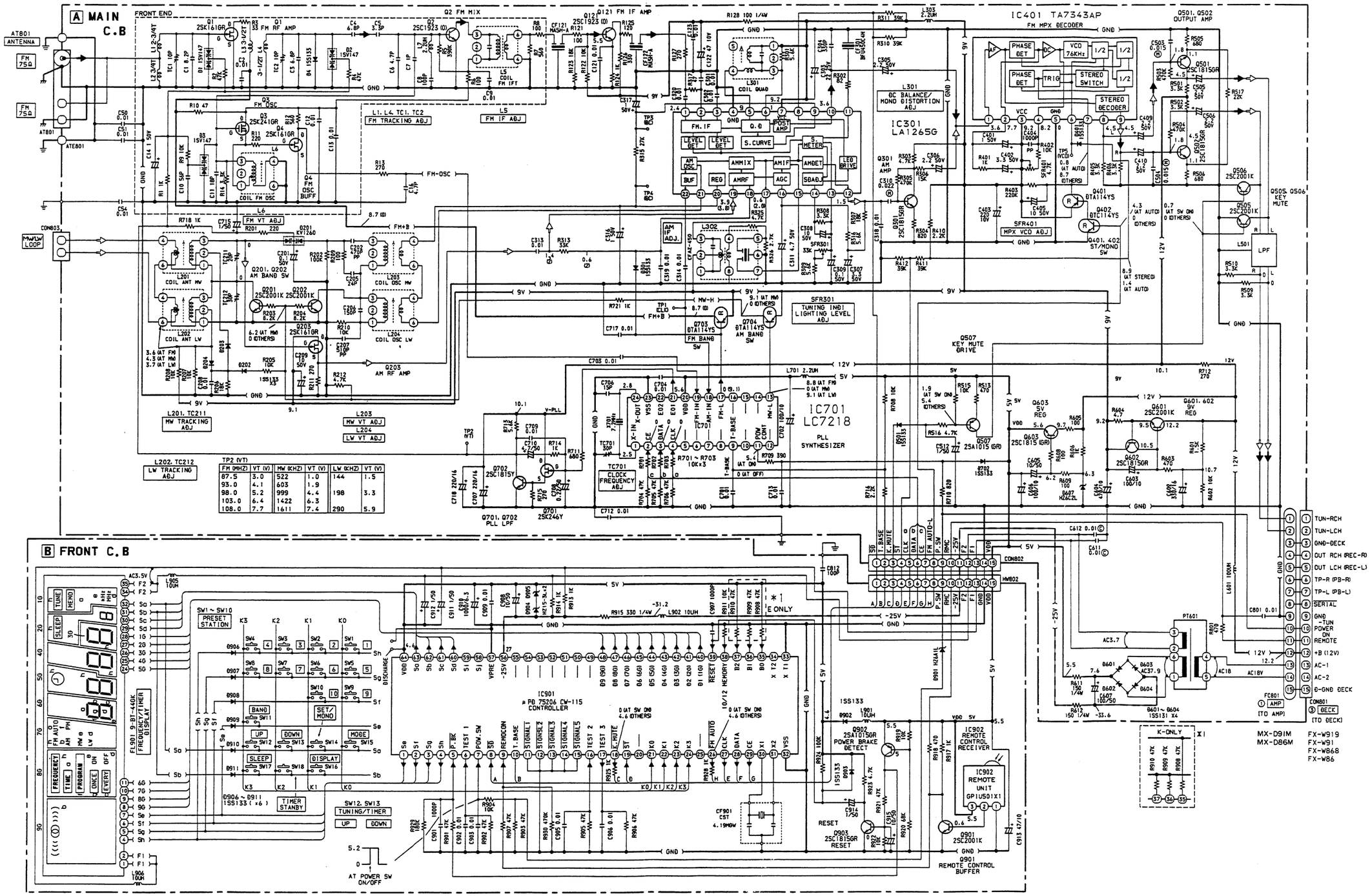
TO A MAIN C.B CON803

FL901 FREQUENCY/TIMER DISPLAY

SW18 TIMER/STANDBY

SW17 SLEEP

# SCHEMATIC DIAGRAM – 1 (TX – D91 YE,YK)



A MAIN C.B

AT801 ANTENNA

MW/LW LOOP

FM 75Ω

FC801 (TO AMP)

CON801 (TO DECK)

GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT.CAP. ARE DESIGNED AS NEGATIVE POLE.

(プリント基板内のケミコンの極性表示は⊖表示です。)

TO E FRONT C.B HW802

B FRONT C.B

PRESET STATION

SW5 5 SW4 4 SW3 3 SW2 2 SW1 1

SW10 10 SW9 9 SW8 8 SW7 7 SW6 6

SW14 SET/MEMO

SW15 MODE

SW16 DISPLAY

SW12 UP

SW13 DOWN

SW11 BAND

TUNING/TIMER

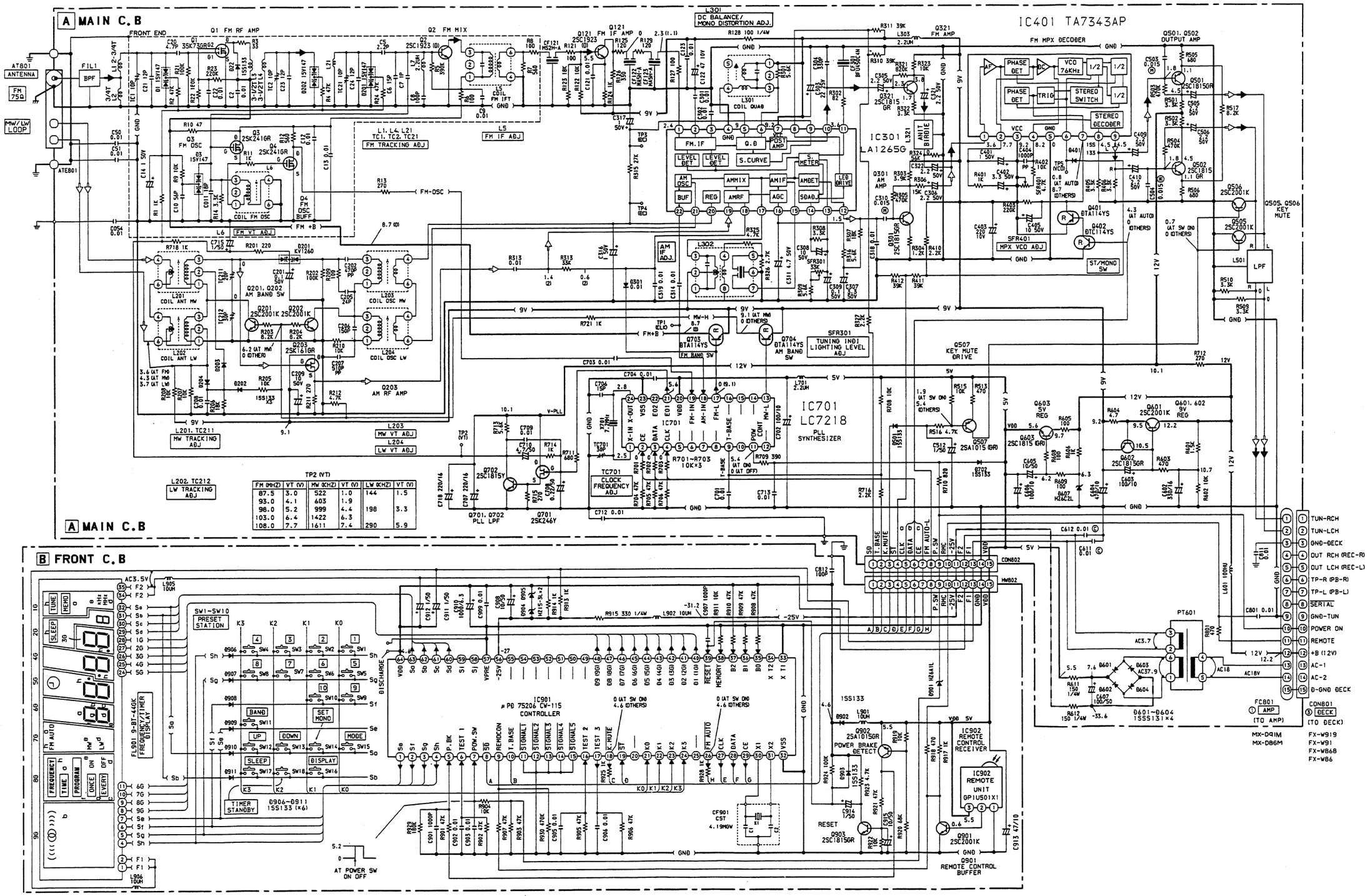
IC902 REMOTE SENSOR

TO A MAIN C.B CON802

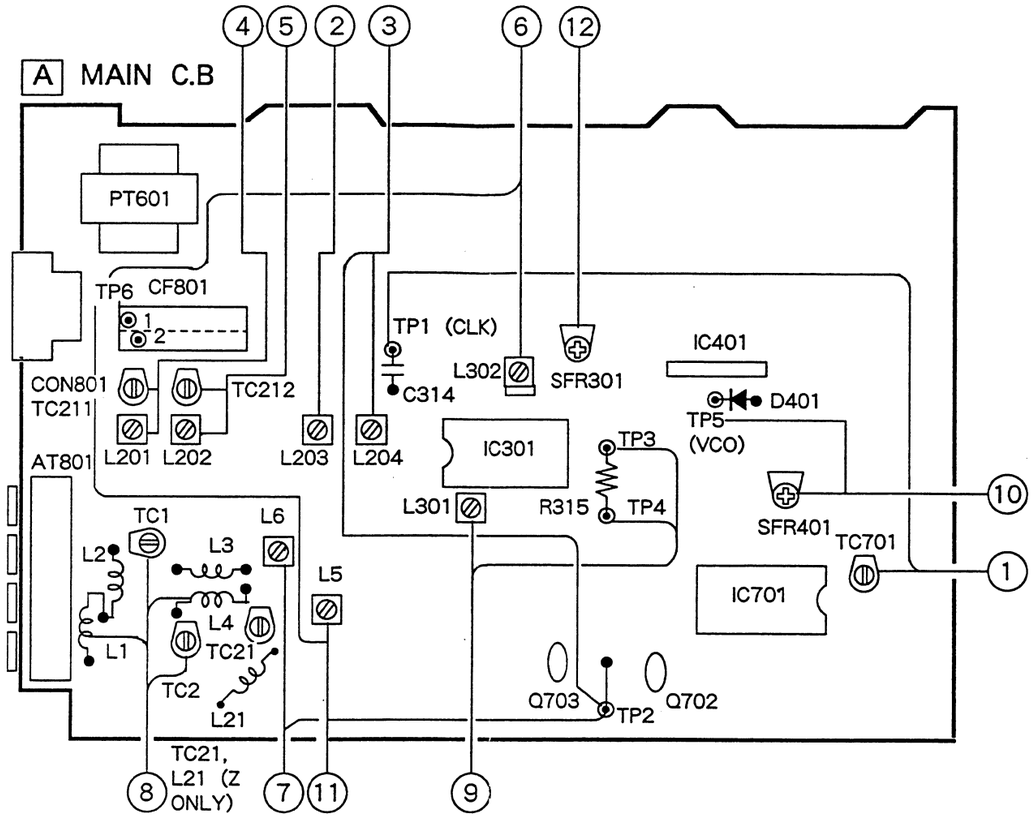
FL901 FREQUENCY/TIMER DISPLAY

SW18 TIMER/STANDBY

SW17 SLEEP


A MAIN C.B
B FRONT C.B
IC401 TA7343AP
FM MPX DECODER
IC301 LA1265G
IC701 LC7218
PLL SYNTHESIZER
IC901 μPD 75206 CW-115 CONTROLLER
IC902 REMOTE CONTROL RECEIVER UNIT GP1U501X1
Q501, Q502 OUTPUT AMP
Q507 KEY MUTE DRIVE
Q603 5V REG
Q601, Q602 9V REG
Q902 2SA1015GR POWER BRAKE DETECT
Q901 REMOTE CONTROL BUFFER
Q703 DTA114YS FM BAND SW
Q704 DTA114YS AM BAND SW
Q401 DTA114YS
Q402 DTC114YS
ST/MONO SW
MPX VCO ADJ
SFR401
SFR301 TUNING IND/ LIGHTING LEVEL ADJ
L301 DC BALANCE/ MONO DISTORTION ADJ.
L302 AM IF ADJ
L501 LPF
Q505, Q506 KEY MUTE
FRONT END
Q1 FM RF AMP
Q2 FM MIX
Q121 FM IF AMP
Q3 FM OSC
Q4 FM OSC BUFF
Q201, Q202 AM BAND SW
Q203 AM RF AMP
L1, L4, L21 TC1, TC2, TC21 FM TRACKING ADJ
L5 FM IF ADJ
L6 FM VT ADJ
L201, TC211 MW TRACKING ADJ
L202, TC212 LW TRACKING ADJ
L203 MW VT ADJ
L204 LW VT ADJ
TP2 (VT)
FM (MHZ) VT (V)
87.5 3.0
93.0 4.1
98.0 5.2
103.0 6.4
108.0 7.7
MW (KHZ) VT (V)
522 1.0
603 1.9
999 4.4
1422 6.3
1611 7.4
LW (KHZ) VT (V)
144 1.5
198 3.3
290 5.9
SW1~SW10 PRESET STATION
TIMER STANDBY
FL901 9-BT-44GK FREQUENCY/TIMER DISPLAY
AT POWER SW ON OFF
CON801
FC801
(TO AMP)
(TO DECK)
TUN-RCH
TUN-LCH
GND-DECK
OUT RCH (REC-R)
OUT LCH (REC-L)
TP-R (PB-R)
TP-L (PB-L)
SERIAL
GND-TUN
POWER ON
REMOTE
+B (12V)
AC-1
AC-2
D-GND DECK
PT601
MX-D91M
MX-D86M
FX-W919
FX-W91
FX-W868
FX-W86

# ADJUSTMENT (TX – D91)




(TUNER SECTION)

1. Clock Frequency Adjustment
   Settings : · Test point : TP1
   · Adjustment location : TC701
   Method : Set to MW 1611kHz and adjust so that the test point becomes 2061kHz±0.01kHz.

2. MW VT Adjustment
   Settings : · Test point : TP2
   · Adjustment location : L203
   Method : Set to MW 522kHz and adjust so that the test point becomes 0.9V±0.05V.

3. LW VT Adjustment
   Settings : · Test point : TP2
   · Adjustment location : L204
   Method : Set to LW 144kHz and adjust so that the test point becomes 1.5V±0.05V.

4. MW Tracking Adjustment
   Settings : · Test point : TP6
   L201 · · · · · · · · · · · · · · · · · · · · 603kHz
   TC211 · · · · · · · · · · · · · · · · · · · · 1404kHz
   Method : Output level become maximum.

5. LW Tracking Adjustment
   Settings : · Test point : TP6
   L202 · · · · · · · · · · · · · · · · · · · · 144kHz
   TC212 · · · · · · · · · · · · · · · · · · · · 290kHz
   Method : Output level become maximum.

6. AM IF Adjustment
   Settings : · Test point : TP6
   L302 · · · · · · · · · · · · · · · · · · · · 450kHz

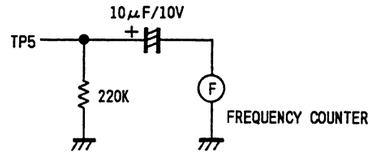
7. FM VT Adjustment
   Settings : · Test point : TP2
   · Adjustment location : L6
   Method : Set to FM 87.5MHz and adjust L6 so that TP2 becomes 3.0V±0.05V.



8. FM Tracking Adjustment
   Settings : · Test point : TP6
   L1, L4 (E,K) } · · · · · · · · · · · · · · 87.5MHz
   L1, L4, L21 (Z) }
   TC1, TC2 (E,K) } · · · · · · · · · · · · · · 108MHz
   TC1, TC2, TC21 (Z) }
   Method : Output level become maximum. Confirm at 98.0MHz, distortion less than 3%.

9. DC Balance/MONO Distortion Adjustment
   Settings : · Test point : TP3, TP4 (DC balance)
   TP6 (Distortion)
   · Adjustment location : L301
   Method : Set to FM 98.0MHz and adjust L301 so that TP3 and TP4 becomes 0V±0.02V. Next, adjust L301 so that the distortion becomes minimum (less than 0.6%).

10. MPX VCO Adjustment
    Settings : · Test point : TP5
    · MODE SW : STEREO
    · Adjustment location : SFR401
    Method : Connect a capacitor and a resistor as below. Set to FM 98.0MHz non modulation and adjust so that the frequency at test point becomes 38kHz±0.05kHz.




11. FM IF Adjustment
    Settings : · Test point : TP6
    L5 · · · · · · · · · · · · · · · · · · · · 10.7MHz

12. Tuning Indicator Lighting Level Adjustment
    Settings : · Adjustment location : SFR301
    Method : Apply an FM 98.0MHz, 18dB signal and adjust so that the "TUNE" indicator lights. Lower the input level by 2dB and check that the "TUNE" indicator goes out.



# PRACTICAL SERVICE FIGURE

〈FM SECTION〉

| | |
|---|---|
| Usable Sensitivity : (THD 3%) | E, K MODELS<br>4±5dB (at 87.5, 98.0, 108.0MHz)<br>Z MODEL<br>8±5dB (at 87.5MHz)<br>7±5dB (at 98.0MHz)<br>7±5dB (at 108.0MHz) |
| S/N 50dB Quieting Sensitivity : | E, K MODELS<br>28±6dB<br>(at 87.5, 90.0, 108.0MHz)<br>Z MODEL<br>32±6dB<br>(at 87.5, 90.0, 108.0MHz) |
| Signal to Noise Ratio : | (MONO.)<br>E, K MODELS<br>More than 68dB (at 98.0MHz)<br>Z MODEL<br>More than 65dB (at 98.0MHz)<br>(STEREO)<br>E, K MODELS<br>More than 62dB (at 98.0MHz)<br>Z MODEL<br>More than 58dB (at 98.0MHz) |
| Total Harmonic Distortion : | (MONO.)<br>Less than 0.8% (at 98.0MHz)<br>(STEREO)<br>Less than 1.0% (at 98.0MHz) |
| Stereo Separation : | More than 25dB |
| Intermediate Frequency : | 10.7MHz |

〈MW SECTION〉

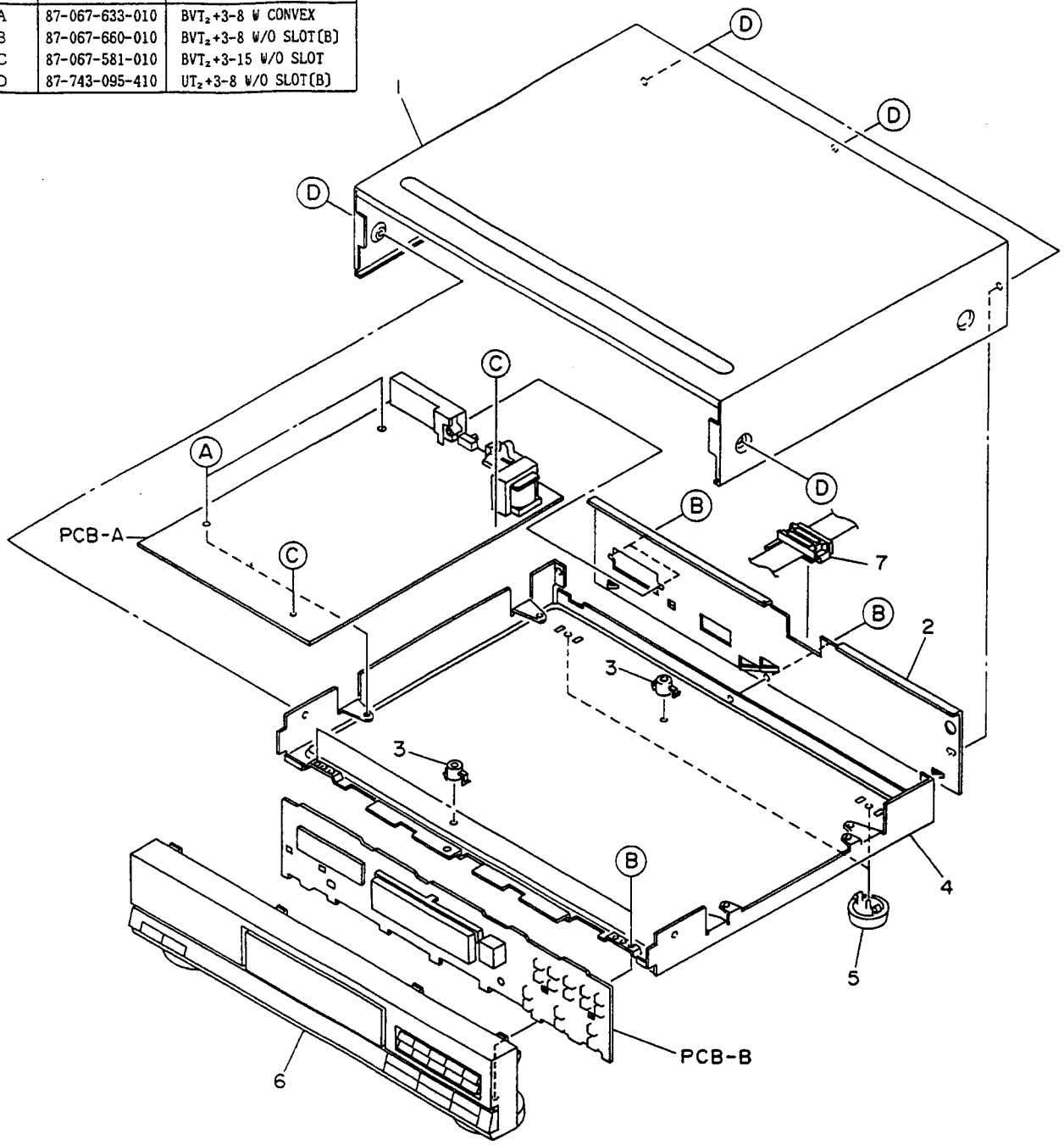
| | |
|---|---|
| Sensitivity : | 57±3dB (at 603kHz)<br>54±3dB (at 999kHz)<br>53±3dB (at 1404kHz) |
| Total Harmonic Distortion: | Less than 2.0%<br>(at 999kHz) |
| Intermediate Frequency : | 450kHz |

〈LW SECTION〉

| | |
|---|---|
| Sensitivity : | 64±5dB (at 144, 198, 290kHz) |
| Intermediate Frequency : | 450kHz |

# EXPLODED VIEW (TX – D91)

| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| A | 87-067-633-010 | $BVT_2$+3-8 W CONVEX |
| B | 87-067-660-010 | $BVT_2$+3-8 W/O SLOT(B) |
| C | 87-067-581-010 | $BVT_2$+3-15 W/O SLOT |
| D | 87-743-095-410 | $UT_2$+3-8 W/O SLOT(B) |




# MECHANICAL PARTS LIST (TX – D91)

| PART NO. CHANGED TO | REF. NO. | PART NO. | DESCRIPTION | COMMON MODEL | Q. TY |
|---|---|---|---|---|---|
| | 1 | *89-VT5-003-010 | CABINET,STEEL | * | 1 |
| | 2 | *89-VT5-021-119 | PANEL,REAR(H) | * | 1 |
| | 2 | *89-VT5-026-119 | PANEL,REAR(HJ) | * | 1 |
| | 2 | *89-VT5-022-019 | PANEL,REAR(U) | * | 1 |
| | 2 | *89-VT5-023-019 | PANEL,REAR(E) | * | 1 |
| | 2 | *89-VT5-024-019 | PANEL,REAR(K) | * | 1 |
| | 2 | *89-VT5-025-019 | PANEL,REAR(Z) | * | 1 |
| | 3 | *81-664-202-010 | HOLDER,P.C.B | | 2 |
| | 4 | --- | CHASSIS,AMP | | 1 |
| | 5 | *87-085-213-010 | FOOT,H12.5 | | 2 |
| | 6 | *09-047-558-010 | FRONT CABINET ASSY(EXCEPT U) | * | 1 |
| | 6 | *09-047-583-010 | FRONT CABINET ASSY(U) | * | 1 |
| | 7 | *89-VT5-202-010 | BUSHING,CORD | * | 1 |

MODEL NO.

# SX – D91/E91/U91

## ■ SPEAKER LIST (SX – D91 / E91 / U91)

| PART NO. CHANGED TO | REF. NO. | PART NO. | DESCRIPTION | COMMON MODEL | Q, TY |
|---|---|---|---|---|---|
| | 1 | 89-VS5-014-010 | CABINET(D91) | * | 2 |
| | 2 | 89-VS5-029-010 | CABINET(E91) | * | 2 |
| | 3 | 81-695-025-010 | AIWA BADGE G(D91) | | 2 |
| | 4 | 81-695-003-010 | PANEL WOOFER(D91) | | 2 |
| | 5 | 89-MS7-001-010 | PANEL WOOFER(E91) | | 2 |
| | 6 | 81-695-003-010 | PANEL WOOFER(U91) | | 2 |
| | 7 | 81-695-006-010 | PANEL SQUAKER ASSY(D91) | | 2 |
| | 8 | 89-VS5-016-010 | PANEL MIDRANGE ASSY(E91) | * | 2 |
| | 9 | 81-695-006-010 | PANEL SQUAKER ASSY(U91) | | 2 |
| | 10 | 81-695-007-010 | PANEL TWEETER ASSY(D91) | | 2 |
| | 11 | 89-VS5-019-010 | PANEL TWEETER ASSY(E91) | * | 2 |
| | 12 | 81-695-007-010 | PANEL TWEETER ASSY(U91) | | 2 |
| | 13 | 81-672-026-010 | GRILL FRAME ASSY(D91) | | 2 |
| | 14 | 89-VS5-030-010 | GRILL ASSY(E91) | * | 2 |
| | 15 | 81-672-026-010 | GRILL FRAME ASSY Y(U91) | | 2 |
| | 16 | 81-672-610-010 | TERMINAL ASSY(D91) | | 2 |
| | 17 | 89-VS5-613-010 | TERMINAL ASSY(E91) | * | 2 |
| | 18 | 81-695-010-010 | TERMINAL U(U91) | | 2 |
| | 19 | 89-VS5-608-010 | SPEAKER WOOFER(D91,E91) | * | 2 |
| | 20 | 89-VS5-616-010 | SPEAKER WOOFER(U91) | * | 2 |
| | 21 | 89-VS5-609-010 | SPEAKER TWEETER(D91,E91) | * | 2 |
| | 22 | 81-695-617-010 | SPEAKER TWEETER(U91) | | 2 |
| | 23 | 89-VS5-610-010 | SPEAKER CERAMIC(D91,E91) | * | 2 |
| | 24 | 81-695-618-010 | SPEAKER CERAMIC(U91) | | 2 |
| | 25 | 81-672-612-010 | SPEAKER CORD(D91) | | 2 |
| | 26 | 89-VS5-615-010 | SPEAKER CORD(E91) | * | 2 |
| | 27 | 83-135-622-010 | CAP,ELECT 2.2UF(U91) | | 2 |
| | 28 | 81-695-612-010 | RES,3.3OHM-5W(U91) | | 2 |

## ■ ACCESSORIES/PACKAGE LIST

| PART NO. CHANGED TO | REF. NO. | PART NO. | DESCRIPTION | COMMON MODEL | Q, TY |
|---|---|---|---|---|---|
| | 1 | ★89-VK5-904-019 | INSTRUCTION BOOKLET,H(H) | * | 1 |
| | 2 | ★89-VK5-907-019 | INSTRUCTION BOOKLET,H(MH) | * | 1 |
| | 3 | ★89-VK5-906-019 | INSTRUCTION BOOKLET,U(U) | * | 1 |
| | 4 | ★89-VK5-905-019 | INSTRUCTION BOOKLET,E(E,K,Z) | * | 1 |
| | 5 | ★81-653-645-010 | AM-LOOP ANT(6T) NC(H,U,Z) | | 1 |
| | 6 | ★81-653-647-010 | AM-LOOP ANT(6T) CON(E,K) | | 1 |
| | 7 | ★81-748-632-010 | FEEDER-ANT,FM N(H,U,E,K) | | 1 |
| | 8 | ★87-042-062-010 | SIEMENS PLUG S-16115(H) | | 1 |
| | 9 | ★87-043-106-010 | FM,WIRE ANT Z(Z) | | 1 |
| | 10 | ★89-VR5-007-019 | REMOTE UNIT RC-T91FYBN(H) | * | 1 |
| | 11 | ★89-VR5-015-019 | REMOTE UNIT RC-T91MFYBN(MH,U) | * | 1 |
| | 12 | ★89-VR5-016-019 | REMOTE UNIT RC-T91MLYBN(E,K,Z) | * | 1 |